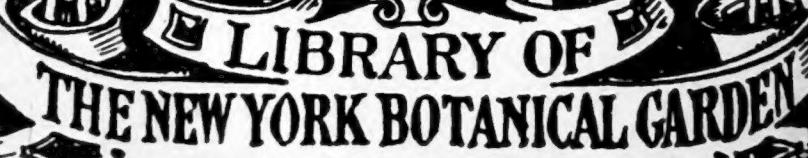


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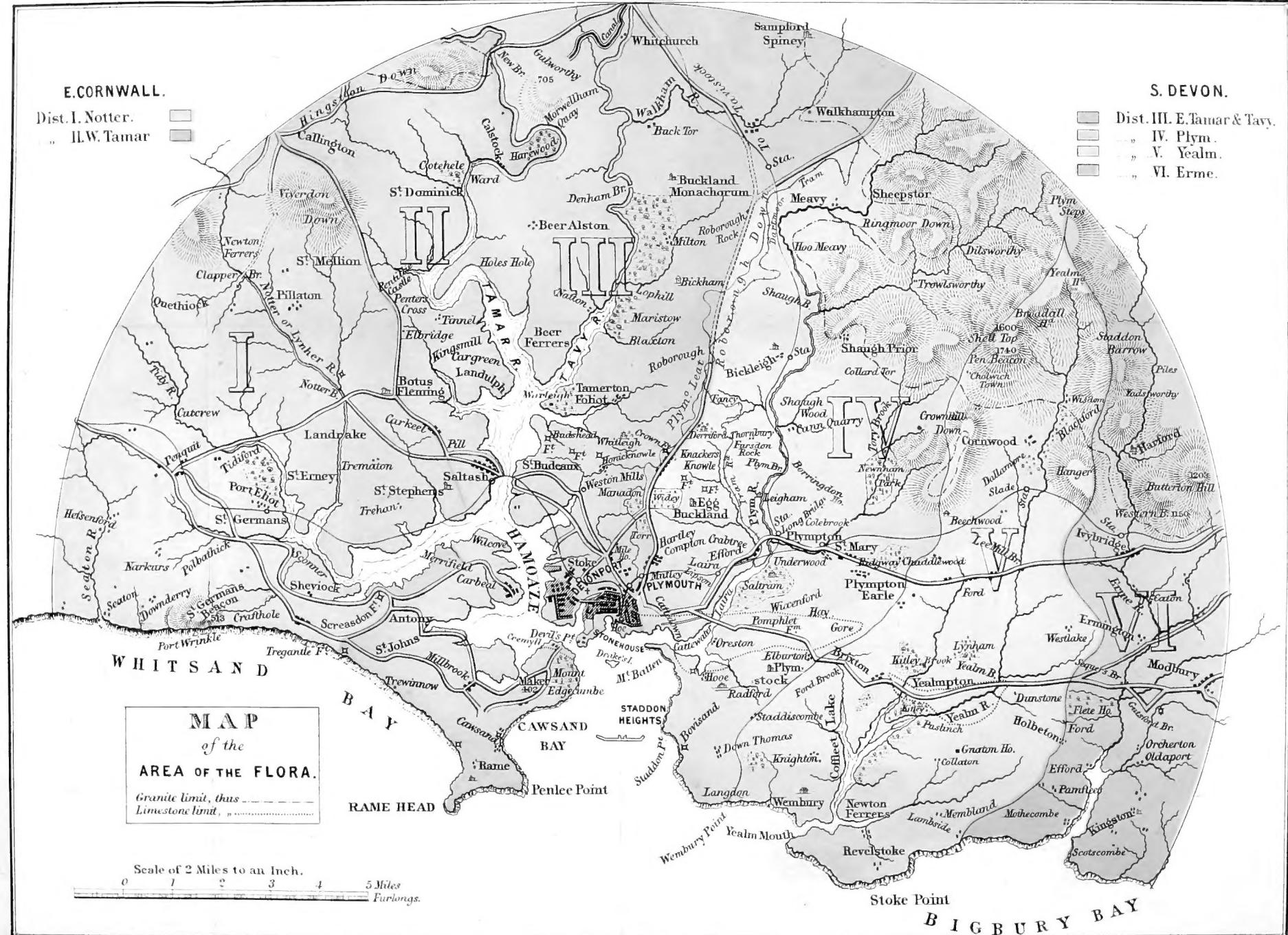
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FLORA OF PLYMOUTH:

AN ACCOUNT OF THE

FLOWERING PLANTS AND FERNS

FOUND WITHIN TWELVE MILES OF THE TOWN;

With Brief Sketches

OF THE

TOPOGRAPHY, GEOLOGY, AND CLIMATE OF THE AREA,

AND

HISTORY OF LOCAL BOTANICAL INVESTIGATION.

BY

T. R. ARCHER BRIGGS, F.L.S.

WITH MAP.

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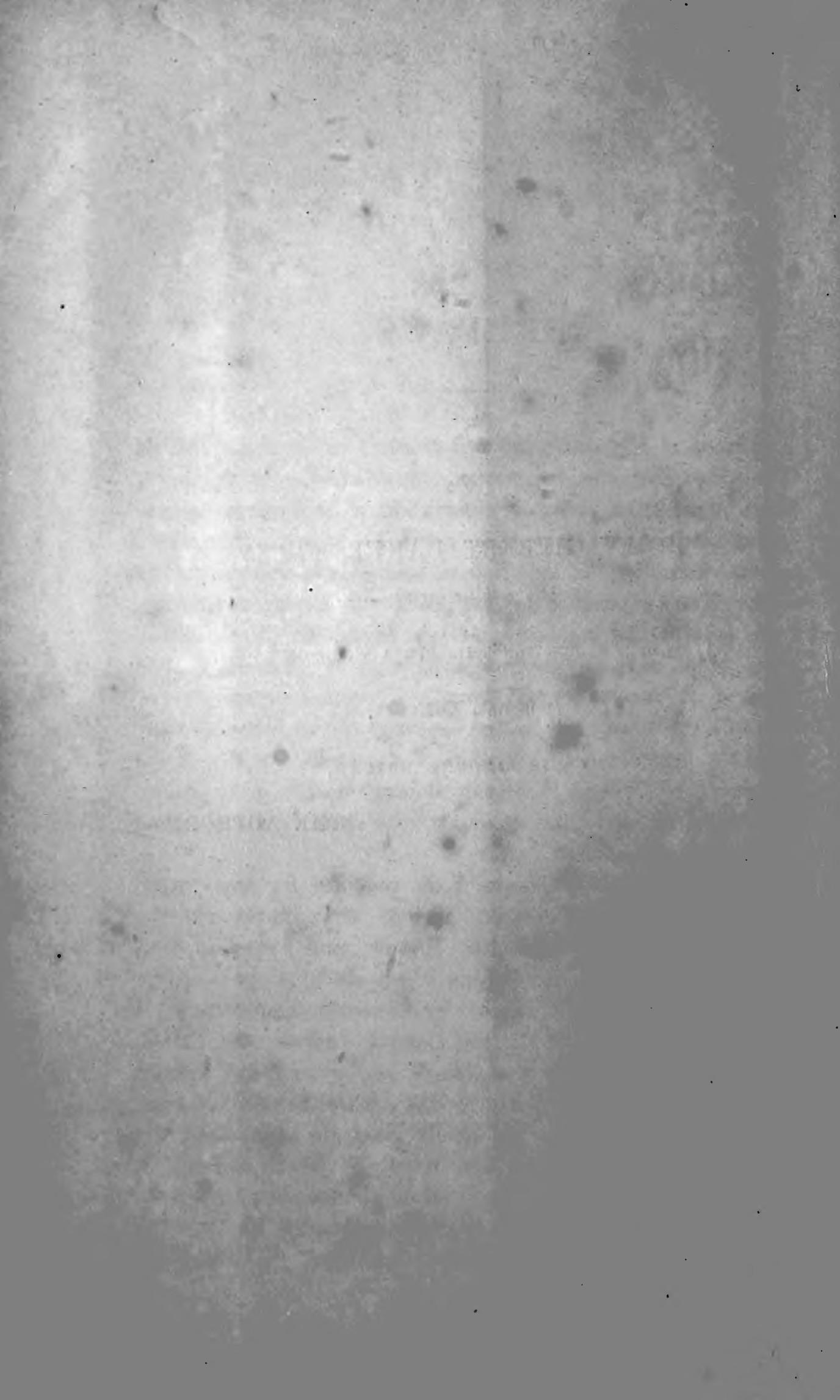
AT WHOSE SUGGESTION THIS FLORA WAS COMMENCED,

It is now Dedicated,

BY HIS SINCERE FRIEND,

THE AUTHOR.

JUNE 26TH, 1880.



PREFACE.

THE Flora of Plymouth gives particulars concerning the Wild Plants and Ferns growing within twelve miles of the town. Notes made from personal observation of the various species during the past twenty years are combined with all the printed records of importance that I have been able to find concerning them. The preparation of the work was commenced several years ago, at the suggestion of my friend Mr. J. G. Baker, when on a visit to the neighbourhood of Plymouth. Aid obtained at various times through occasional correspondence with many botanists has helped me on in the undertaking; and I have to express the obligations I am under to Mr. H. C. Watson, Dr. Boswell, Professor Babington, Mr. J. G. Baker, and others, for having favoured me with their views on certain of the critical species.

To M. Déséglise, of Geneva, I am indebted for many specimens of Continental Roses, and also for notes on some of the Plymouth ones. Dr. Focke, of Bremen, and Professor Areschoug, of Lund, have assisted me in my study of the Rubi by supplying a considerable number of Continental specimens. I am under obligations to Mr. B. Daydon Jackson and Dr. H. Trimen for having taken the trouble to copy out and forward extracts from two or three of the earlier British botanical writers. Mr. H. Groves has kindly given his opinion on the Charæ. Two Plymouth friends, Mr. R. N. Worth and Dr. J. Merrifield, have rendered most valuable assistance by kindly looking over and revising the portions of the *Introduction* that respectively relate to Geology and Climate. To the latter

gentleman I owe the elaborate table giving the "Average of Meteorological Observations, extending over fifteen years."

Mr. Francis Brent has kindly communicated stations of a few of the rarer plants, and Mr. F. H. Goulding has enabled me to quote many more through the loan of his Herbarium, containing specimens collected by the late Mr. J. Bunker and other botanists of the neighbourhood.

I am indebted to my brother, Major J. A. J. Briggs, for the drawing of the map of the Botanical Districts, and also for much help in the preparation of the work for passing into the printer's hands.

Many of the facts given in the "Short Sketch of the Progress of Botanical Investigation" are drawn from the exhaustive and admirable *Bibliotheca Cornubiensis* of Messrs. Boase and Courtney.

If this work is found a useful contribution to the scientific literature of Plymouth it will be a great gratification to me.

T. R. ARCHER BRIGGS.

RICHMOND VILLA, PLYMOUTH.

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INTRODUCTION.

TOPOGRAPHY.

PLYMOUTH is situated in latitude $50^{\circ} 22'$, on the west bank of the estuary of the river Plym, close to its junction with the estuary of the river Tamar ; and at about four miles north of the open English Channel. Immediately to the south of the town the waters of both the Plym and the Tamar are discharged into Plymouth Sound.

The land falling under a radius of twelve miles from Plymouth as a centre forms the area of this *Flora*. Thus the tract is made up of a part of south-west Devon and a smaller portion of south-east Cornwall. Its extent, on a rough calculation, is about 170,000 acres. Devon contains 1,657,180 acres (*Agricultural Returns*, 1871) ; thus the extent of the area of the *Flora* compared with that of the whole of Devon is nearly in the proportion of one to nine.

A reference to the map will show that the greater portion of the land lies north of Plymouth ; that in the opposite direction stretching to a comparatively inconsiderable extent, and being much broken into by the influx of large bodies of salt water.

ELEVATION AND SURFACE FEATURES.—The face of the country is extremely diversified ; hills and dales appear in quick succession over the greater part of it. In a north and north-easterly direction from the town of Plymouth hill after hill rises higher and higher on to Dartmoor, where the peaks become almost mountainous in character ; Shell Top and Pen Beacon, near the village of Cornwood, respectively attaining 1,600 and 1,740 feet, and the Western Beacon and Butterton Hill, both near Ivybridge, 1,203 and 1,130 feet. West of Dartmoor a high table-land intervenes between the rivers Tavy and Tamar, 705 feet high at Morwell Down, between Tavistock and New Bridge, but of less elevation towards the south. This is succeeded on the right bank of the Tamar by a tract very similar to Dartmoor in character ; its highest point, Kit Hill, 1,067 feet, lies just beyond the area. Thence southwards to the coast the surface has much the aspect of the country between Plymouth and Dartmoor.

On the west of Plymouth Sound the picturesque eminence of Maker Heights rises from the water to a height of 402 feet, and on the east side Staddon Heights attain between 300 and 400 feet. The flattest portion of the country lies due east and south-east of Plymouth, where the limestone has only an inconsiderable elevation, and beyond it are comparatively low lands, forming a portion of the country known as the South Hams and celebrated for its fertility. The coast line is extremely varied and very beautiful, although not so bold as in some other parts of Devon and Cornwall. However, at certain points it has features of grandeur, as by Bigbury Bay below Kingston, and again where St. Germans Beacon rises up from the shore of Whitsand Bay to a height of 513 feet.*

GEOLOGY. *Slates and associated Rocks.*—By far the greater portion of the rocks are Slates of varied character, intermixed with Shales and, near the coast, some Red Sandstones. Here and there, in a comparatively limited tract, Calcareous Slates appear associated with Crystalline Limestone, the whole considered by most geologists to belong to the *Devonian* or *Old Red Sandstone* group of rocks. “Though the identification of the rocks of North and South Devon as of Old Red age is generally accepted, the acceptance is by no means universal. There is no question that these rocks are intermediate between the Silurian and the upper part of the Carboniferous systems, but there has been much question whether in truth they are really Devonian or Old Red Sandstone at all, and whether they are not lower members of the Carboniferous formation.” (*Worth, Trans. Plymouth Institution*, vol. v., p. 452.)†

“The Devonian rocks, whatever view may be taken of their collective position, are generally divided into three groups—Upper, Middle, and Lower—each of which has representatives on either side of the great culmiferous trough of the centre of the county [of Devon]. Originally the Plymouth rocks were classed as Lower Devonian, but they now rank as *Middle*” (p. 453). We may place them under three subdivisions. “The underlying slates and associated rocks ranging downwards from the granite ; the limestones ; and the schistose and arenaceous beds ; the whole forming an ascending scale in the order named” (p. 454). On the confines of Dartmoor, around Horrabridge, Walkhampton, and Meavy, the beds consist chiefly of pale greenish and grey argillaceous slates, sometimes soft and silvery, and often veined with quartz. On the south of Morwell Down the beds range from the Tamar by Tideford to the north of Callington, and pass under higher beds south of the town. On the south of Beer Ferrers and Bickleigh these green and grey slates pass under higher beds, which between Tamerton Foliot and St. Budeaux are

* The elevations given in this work have been obtained either from the maps of the Ordnance Survey, De la Beche's *Report*, or the readings of an aneroid.

† In this Geological portion of the Introduction all the succeeding references to pages simply, belong to this paper of Mr. Worth's, in the *Transactions of the Plymouth Institution*.

partly blue and purple. The country to the west of the Tamar is thrown down by the partially metalliferous faults of Calstock and Cotehele. Near the latter place calcareous slate occurs.* There are two small patches of *Culm Measures* at Penters Cross.† Near Landulph and Tamerton Foliot the shores by the Tamar are principally composed of argillaceous slate, which prevails thence nearly down to Saltash, where we find beds of vesicular and schistose trap, mixed with slate of a sufficiently fine grain to be worked, an apparent continuation of the roofing slates of Cann and Rumple Quarries to the eastward, in the Plym Valley. About Saltash and St. Stephens trappean rocks of various kinds—schistose, vesicular, and compact—are found associated with the sedimentary, or occasionally arenaceous, beds.‡ South of St. Stephens the slate and ash beds include some calcareous bands, and pass under a thick series of argillaceous rocks, interstratified with ash beds, which lead up to the base of the Plymouth limestone. The fossiliferous slates of Saltash and St. Germans, with their included volcanic ash beds, join on the Hamoaze with the argillaceous rocks of Polbathick and Antony, and range eastward by the south of Egg Buckland to Hemerdon and the vicinity of Ivybridge, where they are broken through by the granite.§ Variegated argillaceous slates occupy nearly the whole of the country south of the Yealmpton limestones to the coast. Near the mouth of the Erme arenaceous beds occur, as elsewhere to the south of the strike of the limestone and along the coast. Within a few miles of Plymouth masses of *Trap* are common among the slates, which seem often to have been thrown out of their true position by the intrusion. These igneous rocks vary greatly in hardness, in some places being vesicular, ashy, and so soft that, after exposure to the atmosphere, pieces may be pulled away with the fingers; whilst in others they are extremely hard. In the parish of Egg Buckland there is a considerable quantity of greenstone, round boulder-like masses of which present themselves to the eye in various spots. At Yealmpton, immediately to the north of the limestone, is a large mass of trap, which rock also appears at Hareston, Lynham, near Cornwood, &c.

Near Cawsand there is a small outlying patch of *Triassic* rocks, the only one which occurs in the district, and distant fifteen miles from the nearest point at which another *Triassic* outlier is found, on the coast at Thurlestone. Associated with this small remnant of the *New Red Sandstone* beds, which at one time occupied a wide area in the south of Devon, is an interesting example of igneous rock, which has been identified with a felspathic trap of the *Triassic* series, similar to some of those which occur in the neighbourhood of Exeter.

* DE LA BECHE, *Rep. Geo. Corn., Devon, and W. Somerset.*

† DR. HOLL, *Quart. Jour. Geol. Soc.* xiv. 414.

‡ DE LA BECHE, *Rep. Geo. Corn., Devon, and W. Somerset*, pp. 60-63, in part.

§ DR. HOLL.

Red Sandstone beds of Devonian age are associated with the slates on both sides of Plymouth Sound, and in some other places on or near the coast.

Deronian Limestone.—The Limestone of the Plymouth district “forms a band half-a-mile in width and nearly six and a half miles in length. Its main western extremity is in Devonport Dockyard, but there are detached beds on the other side of the Tamar. It breaks off on the east about Sherford. Its general elevation is much lower than that of the slate hills, averaging about a hundred feet; and whilst its summit-line has been truly described as being level as a wall, its continuity is broken at several points.” A little south of Hay Farm it attains 180 feet, and at Rounds Nest, south of Yealmpton village, 150 feet. “The Tamar, after rounding its western extremity, passes through it at Cremyll; the Plym has a narrow channel at Cattedown; and at Stonehouse Pool, Millbay, and Sutton Pool, the waters of the Sound find access through the barriers to basins worn out of the slate rocks behind.” (pp. 459–60.) About three miles east of the extremity of the main mass considerable beds appear at Kitley and Yealmpton; and about two miles beyond there is a narrow band, about one mile long, running in a south-east direction from Sequers Bridge towards Modbury.

“The limestone varies much in colour and structure. Both on the north and south it graduates into the slate through calcareous shale. It abounds in fossils, chiefly coralline in its more massive portions, whilst some of the exterior beds have yielded large quantities of bivalves and univalves; and others, with the adjoining slates, are remarkably fruitful in crinoidal remains. In texture it is generally highly crystalline, and in colour very various, ranging from black, through red, yellow, dove, and gray, to white.” (p. 460.) The Yealmpton limestone is largely *dolomitic*, but magnesian limestone is of general occurrence, associated with the ordinary forms.

Elvans traverse Morwell Down, the southern of which extends nearly to Horrabridge; one crosses Roborough Down in an east and west direction; another occurs near Roborough village, and a porphyritic one crosses the country from the valley of the Plym to near Knackersknowle.* There are numerous other bands and patches of rock which approach the character of elvans, but it is difficult in several cases to decide precisely as to their character. In like manner many of the rocks commonly classed as trappean are undoubtedly merely altered rocks of sedimentary origin. The genuine trappean rocks where decomposed yield some of the richest soil in the district.

Granite.—Granite rocks, forming a part of the south-western portion of Dartmoor, occupy the north-east of the area. A detached mass forms the eminence of Hemerdon Ball and part of Crownhill Down. In the

* DE LA BECHE, *Rep.* 184.

north-west, on the Cornwall side of the Tamar, between New Bridge and the Weir Head, is another patch of this rock. Altogether granite occupies rather less than one-sixth of the area. The granite of Dartmoor is, as a whole, a coarse-grained mixture of quartz, felspar, and mica ; the latter sometimes white, at others black, the two micas occasionally occurring in the same mass. It is commonly porphyritic, from the presence of large crystals of felspar, and here and there schorlaceous ; but the latter character is chiefly confined to the outskirts, where the granite adjoins the slates, as on Crownhill Down.* The granite on the west of the Tamar is in composition very similar to that of Dartmoor. A band of Devonian rocks altered through the intrusion of the granite comes in between it and the rocks of the Devonian series. Around the margin of Dartmoor the granite has thrown out veins, both large and small, into the adjacent rocks.†

DRAINAGE.—The whole of the area has a southern drainage. The number of its rivers constitutes one of its most noticeable natural features, and makes it an easy matter to divide the country into botanical districts founded on the natural drainage, though, from its comparatively small size, it is not generally the entire basin of any river that can be dealt with.

Proceeding from west to east the first river is the little *Seaton*, which, rising between Caradon Hill and St. Cleer, after a course of about twelve or thirteen miles falls into the English Channel at Whitsand Bay. It drains a narrow tract lying partly within the parishes of St. Cleer, Menheniot, and St. Germans, but only a portion of its basin is within our area.

The *Notter* rises at Beacon Hill, about two miles south-west of Altarnun, and after a course of twenty-seven miles ‡ falls into the Tamar a little below Saltash. For the greater part of its length, on to Notter Bridge, it takes a south-east direction, receiving many small streams ; those on its right bringing the drainage of the eastern side of the hills about Caradon and to the north of the Cheesewring, and also of the country lying east of the hills ranging from Caradon to St. Ive village. The high road from St. Ive to Liskeard crosses the river just at the spot where it comes within our boundary line. Between this and Notter Bridge the drainage of the eastern portions of the parishes of Quethiock and Landrake passes into it by several small brooks. A little below Notter, close to which it is tidal, it bends slightly towards the south-west, continuing in this direction for about two miles, until it is met by the *Tidy*, a small river from the north-west, bringing down most of the drainage of the parishes of St. Ive, Quethiock, and St. Germans. A little above its union with the Notter it passes under the old town of St.

* DE LA BECHE, *Rep.* pp. 157, 58.

+ Dr. Holl.

‡ The lengths of the river courses are from De la Beche's *Rep. Geo. Corn., Dev., and W. Somerset.*

Germans, built on its western bank. It is tidal for about two miles above its confluence with the Notter. The Notter on its eastern bank receives the drainage of the country lying west of the high road between Callington and Altarnun. After its junction with the Tidy it flows for more than a mile in a south-easterly direction, till, curving suddenly round the promontory of Erth, it runs north-east until it is lost in the Tamar, about three miles below. Between St. Germans and this point it has several tidal inlets on each side, receiving by a stream passing into one of them on the right, the drainage of the country between St. Germans Beacon and Sheviock village ; and by another on the left, most of that of St. Stephens parish. The Notter is tidal for six and a half miles above its confluence with the Tamar.

The *Tamar* rises at Wooley Barrows, five miles south of Hartland, in the north of Devon, and after a course of fifty-nine miles flows into Plymouth Sound by Mount Edgcumbe. It is tidal for no less than seventeen and a half miles, and but little more than this portion of it comes within our boundary line. Its course is very winding, especially in the neighbourhood of Calstock and Pentillie. The first tributary of the Tamar below the Weir Head, on its right bank and Cornwall side, is an insignificant stream running down Danescombe ; a mile further south a more considerable one brings the principal drainage of the country lying between Hingston Down, Callington, and St. Dominick ; a couple of miles further down a brook brings the waters of the tract lying east of the turnpike road from Penters Cross to Viverdon Down. Between two and three miles further south another comes down by Landulph, with a wide outlet, up which the tide ascends to Kingsmill, between one and two miles from the river. It drains the country between Carkeel and Botus Fleming, east of the Saltash and Callington turnpike road. Rather more than a mile below stands the ancient town of Saltash, a little south of which the Tamar receives the Notter, from which point the united waters are known as the Hamoaze. They receive no more streams of any size, though a few rills run down into the two large tidal inlets named respectively Millbrook and St. Johns " Lakes."

The Tamar on its left and Devon bank has but few tributary streams, and those unimportant, unless the very large affluent, the *Tavy*, be considered in the light of one. From the Weir Head to the confluence of the two rivers the intervening tract is in no place more than four miles across, and in some considerably less, consequently the drainage from it is very inconsiderable. Below the mouth of the *Tavy* there are also few tributaries. A stream comes down by Tamerton Foliot, with the drainage of this parish and part of that of St. Budeaux, and is met by the tide just below Tamerton village. Thence to the mouth of the Tamar are only a few insignificant streams ; one of them by Weston Mills, another by Keyham.

The *Tavy* rises at Okement Hill, in the northern part of Dartmoor, and after a course of twenty-three miles falls into the Tamar, a little above Tamerton Foliot, about five miles from Plymouth. Only rather more than a half of its course—that from a point a little below the town of Tavistock—comes within our boundary line. Above Tavistock it traverses for the most part a moorland tract, running in a south-westerly direction. A mile below it takes a serpentine course southwards, and a little further on receives a considerable stream on its right; and about five miles from Tavistock meets an affluent of nearly equal size, now known as the *Walkham*, but anciently called the *Store*, which brings, round the northern edge of Roborough Down, the drainage of a moorland tract lying east of the two Mistors and Hessary Tor, together with that of the country around the villages of Walkhampton, Sampford Spiney, and Horrabridge. The united waters then take a course southerly in the main. They are crossed at Denham Bridge by the road from Horrabridge to the old mining town of Beer Alston, and a little below pass Buckland Abbey and Maristow, both on the left. The river becomes tidal a little above the last-named place, and receives a stream running down from the hamlet of Milton. Thence it flows in a south-westerly direction, and just opposite Beer Ferrers receives a stream into Blaxton Creek, on its right. Between one and two miles below, after passing Warleigh Point, it is lost in the Tamar.

The *Plym* rises on the west of Caters Beam, Dartmoor, and flows thence in a south-west direction. Between its source and Cadover or Cadworthy Bridge, a distance of about five miles, it is augmented by several moorland streams; a little below it passes east of the fine granitic cliff of Dowerstone, and is met at Shaugh Bridge by a stream from the north-west, fully as large as itself, bringing the drainage of the tract lying between Eylesbarrow, Ringmoor, and Wigford Downs on the one side, and the road from Roborough Down to Prince Town on the other. This latter river is generally known as the *Mew* or *Meavy*. From Shaugh Bridge the Plym flows in a southerly direction for six or seven miles, through a finely wooded and very beautiful valley, and receives a few small streams on each side. At Longbridge, about three miles from Plymouth, it expands into a lake-like estuary known as the Laira, and, through Cattewater, passes into Plymouth Sound. It is tidal to just above Longbridge, and here receives a large tributary called *Torey Brook*, which rises a little to the west of Pen Beacon, Dartmoor, and drains most of the country lying between Crownhill Down, Hemerdon Ball, and Plympton town on the east, and the road from Colebrook to Shaugh Prior on the west. Lower down, at Crabtree, another stream, draining the greater part of the parish of Egg Buckland, flows into the estuary; and, near Plymouth, a smaller one comes down by Lipson from the eastern side of Mutley Plain, immediately on the north of the town. The

Plym, after a course of sixteen miles, discharges its waters into Plymouth Sound on its eastern side ; here they are met by those brought down by the Tamar on the other. Nearly the whole basin of the Plym is within our area.

The *Yealm* rises on Dartmoor, about one mile north-east of Shell Top, and after a course of fourteen miles falls into the English Channel. Within a couple of miles of its source it receives the waters of three moorland streams, and, after passing under the village of Cornwood, flows in a nearly southerly direction. Between one and two miles below Cornwood it receives on its western side a considerable stream, running down from Cholwichtown. It is crossed by the Plymouth and Ivybridge Road at Lee Mill Bridge, and between two and three miles lower down takes a much more westerly direction, under Yealmpton village, having been met by two or three small streams between this and Lee Mill. Passing Puslinch and Kitley, it at the latter place receives a considerable tributary, *Kitley Brook* or Silverbridge Lake, which, flowing down from the large parish of Plympton St. Mary, brings the drainage of the country between Plympton town and Brixton on the west, and Smithalee and Yealmpton village on the east. At Kitley, two and three-quarter miles from its mouth, it becomes tidal, and a little below receives two small streams through the tidal expanse of Coffleet "Lake." A more considerable tributary on the left brings the drainage of the country between Newton Ferrers and Holbeton. This is tidal to Bridgend, just above Newton Ferrers village. A little over a mile below Newton Ferrers the Yealm falls into the sea through a narrow outlet, in a direction due west, its course having become deflected a little way above. Its whole basin is within our area.

The *Erme* rises on the south of Caters Beam, Dartmoor, a little beyond our boundary line on the north-east, and after a southerly course of fourteen and a half miles falls into the sea at Bigbury Bay. On Dartmoor it is met by some small streams, and about two miles within our boundary line it passes between the hills of Staddon Barrow and Three Barrows. Two miles further south it flows under Harford Church, and a little below is augmented by two streams. It runs on by Ivybridge, Caton, and Ermington, and is met before it reaches Fleet, a little below Ermington, by three streams that drain the country lying between Ugborough and Modbury. A little to the south of Oldaport, between one and two miles lower down, it receives another small tributary, which is tidal for a short distance. The Erme flows into Bigbury Bay by a rather wide outlet at Mothecombe. It is tidal for two and a half miles.

NATURAL FEATURES, CONDITION OF THE SURFACE, &c.—The natural features of the country and the present varied conditions of its surface are both favourable to the production of a large and interesting flora. In the north there is a considerable expanse of elevated open moorland,

dotted over with large masses of rock, affording congenial habitats for some *Filices*, and other plants that flourish in an atmosphere abounding in moisture. This tract has many peat bogs that support tufts of *Sphagnum*, and yield *Drosera rotundifolia*, *D. intermedia*, *Pinguicula lusitanica*, *Narthecium*, and other uliginous species. Immediately south of this portion of Dartmoor are several large commons that suit plants of an ericetal character, and some of those minute species, such as *Sagina subulata*, *Radiola*, *Centunculus*, &c., that affect open turf-y places. Near the moor long stretches of aboriginal copse-wood often skirt the streams issuing from it, and afford suitable spots for certain sylvestral plants; whilst further south meadows and woods border the rivers and are the means of giving additional variety to the botany. As we approach the coast the numerous estuaries and tidal inlets materially add to the number of the species, and influence in some degree the character of the vegetation to a considerable distance from their waters. About their shores such plants as delight in a saline soil or atmosphere, but shun the exposure of the open coast, find congenial stations. The coast itself, with its long and varied line of cliff and beach, offers all the conditions required by many maritime and rupestral plants. The quantity of arable land is more than sufficient to add a considerable number of agrarian weeds. On the other hand, the cultivation of the surface has not been so much extended as to alter the features of the flora to so great a degree as in the very highly cultivated and more exclusively arable portions of the kingdom. The plough has certainly greatly reduced in numbers many of our species, but very few seem to have been lost to us either through its action or by man's interference with the surface in any way. In some spots the nature of the ground absolutely forbids cultivation, whilst in others its natural character is such as to make it most profitable to the owners to allow it to remain in its original state, either as grazing ground or for the production of wood. Still, looking at the whole area, the extent both of aboriginal wood and virgin sod is gradually diminishing. When portions of open ground are enclosed it often happens that the hedge-banks, usually formed in this part of England, preserve on their sides much of the original vegetation, to the advantage of the botanist. Thus, in a locality only a few miles from the town of Plymouth, *Viola lactea*, *Ulex Gallii*, *Galium saxatile*, *Agrostis setacea*, &c., still grow on the hedge-banks where a common was enclosed about fifty years ago. The many deep cuttings at the sides of the roads, rendered necessary by the hilly nature of the country, supply, especially when the soil is of a somewhat friable nature, very congenial spots for many species, such as *Epilobium lanceolatum*, *Cotyledon umbilicus*, *Sedum anglicum*, *Jasione montana*, &c. The hedge-rows above the hollow lanes support amongst their bushes climbing plants, intermixed with *Rosæ* and *Rubi* to delight and often puzzle the botanist. The shade

and shelter that the hedges afford to the banks below make the latter peculiarly suitable for certain *Filices*, so that they attain on them unusual size and luxuriance. In one respect the flora of Plymouth is poor ; it is remarkably deficient in aquatic species. Owing to the hilly nature of the country the area has very few still waters and sluggish streams ; hence it is unsuitable for most water plants. Here, as elsewhere, we find surface peculiarities distinctly influencing species distribution.

It is now generally considered that the physical conditions of a soil—its power of absorbing moisture and retaining heat—do more to determine the species on it than do its chemical constituents. When we find in one part of England plants limited to a particular soil which in others are not so restricted, it seems reasonable to infer that it is the lithological, not the chemical, nature of the soil which operates, through its affording in the particular locality just the amount of moisture and heat required by the species.

CLIMATE.

The mean temperature of the town of Plymouth is, according to Dr. Merrifield,* $51^{\circ} 60'$. This is no doubt higher than the average would be for the whole area. Watson gives 52° as the assumed mean for Cornwall on the southern coast-line and $51\frac{1}{2}^{\circ}$ as that for South Devon. The mean for some inland tracts within our boundary line would be certainly considerably lower, owing to their elevation above sea-level, and also to the fact that maritime localities are usually about one degree higher than inland places under the same parallels of latitude. Watson assumes the relation of temperature and altitude to be at the rate of one degree of Fahrenheit's scale for each 100 yards of ascent.† At this calculation the temperature at the summit of both Pen Beacon and Shell Top, the two highest hills of our area, would be more than five degrees below that of Plymouth through difference of altitude alone. As each of the six zones into which Britain is divided in the *Cybele Britannica* is estimated to cover a range of about three degrees of mean annual temperature, it is manifest that two are represented in our area ; the lowest or Infer-agrarian, and the Midagrarian ; all the country up to 900 feet belonging to the former, all above 900 feet to the latter. In the *Flora of Middlesex* the mean temperature of Greenwich is stated to be $49^{\circ} 4'$, as determined from twenty years' observation ; so that the difference between it and that of Plymouth, as determined by Dr. Merrifield, is $2^{\circ} 56'$. The authors

* "The Meteorology and Climate of Plymouth." A paper read before the British Medical Association, by John Merrifield, LL.D., PH. D., &c., Plymouth, 1871. The references inserted above under "Climate" are to the pages of this work.

† Dr. Merrifield notes that "The relation of temperature to altitude varies with : (a) the latitude ; (b) situation ; (c) dampness or dryness of the air ; (d) calm or windy weather ; (e) seasons of the year. The average is one degree for every 296 feet."

of that *Flora* remark that the great characteristic of British climate, when compared with other European countries in the same latitude, is the comparatively small range of temperature between winter and summer. In the south-west of the kingdom this distinguishing feature must be most marked, and probably our climate acts most upon our flora through this equability of the temperature and the general humidity of the atmosphere. " Yet it is difficult even to present impossibility to trace out very special connections between plants and climate. In its relations to plants climate involves most varied combinations of temperature and humidity, of exposure to sun and wind, shade and shelter. If time and place be both taken into account, by the season, and the character of the locality, and other circumstances, the combinations become endless in their variety and proportions." (*Watson, Cyb. Brit.* vol. iv. 145.) Although our climate is so humid, yet our rainfall, as Dr. Merrifield says, is not a large one. With reference to this subject he makes the following important statements : " The humidity of a district should be judged more by the *number* of rainy days than by the *quantity* of rain which falls, because fine rain falling for several successive days, not amounting to so much as a single heavy shower, will render the climate more moist than another where the rain falls heavily and then stops. Many days in the year the sky is completely overcast, and it is but seldom our atmosphere is free from cloud." (pp. 8, 9.) The effects of our climate are shown in the abundance of the Ferns, the profusion of *Cotyledon umbilicus*, and other moisture-loving species. Although the winters are generally remarkable for their mildness, yet at intervals one will bring with it severe or protracted cold, and its effects will be clearly seen the succeeding spring in the gardens of Plymouth and its neighbourhood, since the ordinary immunity from such weather leads the owners to introduce into them many comparatively tender species, the cultivation of which in the open air would not be attempted in most parts of England. Frosty nights are very frequent in the spring, and occasionally the cold is of sufficient severity so late in the season as to injure the young foliage of the oak, and partially destroy the unfolding fronds of the ferns.

" Our hottest months are June, July, and August, when the averages are 59° 92', 63° 07', and 62° 40' Fahrenheit, thus showing July to have the advantage. Our coldest months are January, averaging 42° 34', February, 43° 86', and December, 42° 35', the former on the whole being colder than either December or February. Like every other place we have some extreme readings, but these in Plymouth, as in all the southwest districts, are comparatively rare. The maximum temperature in the shade which I have recorded is 93° Fahrenheit, on June 27th, 1866. The minimum is 14° Fahrenheit, on December 27th, 1869. The maximum should be received with caution, because I am afraid heat must either have been reflected or radiated from surrounding substances. I have

many instances of the temperature reaching from 85° to 90° Fahrenheit. I find the maximum for the day is generally from 2.30 p.m. to 3.30 p.m. Our mean maximum is 58.22° ; our mean minimum is 44.99. The average difference between our wet and dry bulb thermometers is 1.90° Fahrenheit. Very frequently at 8 a.m., and even throughout the day, we find our wet and dry bulbs indicating the same temperature, thus showing the atmosphere to be completely saturated. I take this to be a phenomenon," continues Dr. Merrifield, "common to the whole south-west district, because with a south-west wind, coming from a warm ocean, the air must be highly charged with moisture, and when it is cooled by contact with the land complete saturation takes place, and we get drizzling rain, lasting hours, perhaps days ; and yet the rainfall for that time is comparatively small." (pp. 4, 5.)

1870, days on which rain fell, 118 ; amount 24.4 inches.

1871	"	"	"	167	"	35.87	"
1872	"	"	"	219	"	45.06	"
1873	"	"	"	180	"	30.52	"
1874	"	"	"	181	"	35.53	"
1875	"	"	"	188	"	41.53	"
1876	"	"	"	197	"	43.18	"
1877	"	"	"	213	"	41.68	"
1878	"	"	"	204	"	35.58	"
1879	"	"	"	205	"	42.02	"

AVERAGE OF METEOROLOGICAL OBSERVATIONS EXTENDING OVER FIFTEEN YEARS,
FROM 1865 TO 1879,

Taken at Plymouth, Latitude $50^{\circ} 22\frac{1}{2}'$ N., Longitude, $4^{\circ} 7\frac{1}{4}'$ W.

CLIMATE.

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MONTH.	AVERAGE Barometer. Reduced to mean sea-level at 32° F.	BAROMETER.		TEMPERATURE.		HYGROMETER.		RAINFALL.		WINDS.							
		Average Maximum Barometer.	Average Minimum Barometer.	Average Maximum Shade.	Average Minimum shade.	Average Dry Bulb.	Average Wet Bulb.	Average Dew-point.	Average Humidity. Saturation = 100.	Number of days on which not less than 0.1 inch fell.	Quantity for the month in inches.	From N. by E. to E.	From S. by S. to S.	From W. by W. to W.	From N. by N. to N.	Gales.	
January	29.921	30.459	29.109	47.03	37.65	42.34	41.48	40.55	39.39	93	20.53	4.729	5.56	5.83	12.08	5.43	2.10
February	29.961	30.469	29.197	48.85	38.87	43.86	42.57	41.59	40.40	92	17.73	3.328	5.33	4.67	9.94	6.33	1.93
March	29.927	30.443	29.234	50.63	38.07	44.35	42.69	41.04	39.04	89	14.13	2.583	8.73	3.80	7.27	9.27	1.93
April	29.918	30.356	29.218	57.66	42.61	50.14	49.38	47.12	44.70	84	13.33	2.303	8.35	5.95	6.95	6.20	2.53
May	29.965	30.351	29.473	61.77	45.81	53.79	53.91	50.85	47.85	80	11.73	2.325	7.20	7.73	7.67	7.07	1.33
June	30.027	30.344	29.531	68.08	51.76	59.92	60.41	56.84	53.72	79	11.20	1.809	5.00	6.47	9.00	7.67	1.87
July	29.989	30.327	29.576	70.92	55.23	63.07	63.05	59.73	56.91	80	12.87	2.468	4.33	4.93	10.40	9.00	2.33
August	29.952	30.285	29.512	69.94	54.85	62.40	61.68	59.24	57.12	86	14.93	3.047	5.00	5.73	10.13	7.87	2.27
September	29.928	30.353	29.402	65.70	51.61	58.66	57.69	56.04	54.54	89	15.53	4.268	5.73	5.40	9.80	5.33	3.73
October	29.891	30.408	29.292	58.79	46.28	52.54	51.52	50.42	49.29	92	18.53	3.613	6.60	5.47	8.33	7.20	3.40
November	29.928	30.448	29.157	51.77	39.90	45.83	44.46	43.41	42.18	92	15.40	3.273	8.07	4.00	7.53	7.80	2.60
December	29.932	30.449	29.147	47.51	37.20	42.35	41.26	40.40	39.32	93	17.73	3.795	6.31	5.64	8.28	6.72	4.05
Average	29.945	30.391	29.321	58.22	44.99	51.60	50.84	48.94	46.96	87	183.64	37.541	76.21	65.62	107.38	85.91	30.07

DIVISION OF THE AREA INTO DISTRICTS.

It has been already stated that the number of the rivers is one of the noticeable features of the area. It is easily divided into Districts by marking out their respective basins, or rather portions of basins ; for in most cases it is not an entire one that comes within the line of limit, passing at twelve miles distance from the town of Plymouth. By means of these basins, or portions of basins, six Botanical Districts are formed ; i. and ii. in East Cornwall, iii., iv., v. and vi. in South Devon. Although the larger part of the area is in South Devon, and the smaller in East Cornwall, it has been thought best to take the Cornwall portion first in order, so as to fall in with the sequence of the two vice-counties "East Cornwall" and "South Devon," in *Topographical Botany*. In that work East Cornwall appears as vice-county 2, South Devon as vice-county 3. The six Districts are named as follows :

EAST CORNWALL . .	i. Notter. ii. West Tamar.
SOUTH DEVON . .	iii. East Tamar and Tavy. iv. Plym. v. Yealm. vi. Erme.

Each District will be found clearly defined in the accompanying map.

East Cornwall. I. Notter.—The boundary lines of this are : north and west, the line of limit to the area ; south, the English Channel ; east, the turnpike road from Callington to one mile north of Saltash, thence a line drawn a little east of St. Stephens village on to the eastern shore of Forder Lake, and continued across the estuary to follow the road from Antony Ferryhouse to Tregantle Fort, and pass west of it to the Channel at Whitsand Bay. The small portion of country drained by the little river Seaton is included in this District, being thought too small to constitute a separate one. The Tidy has been considered a tributary of the Notter. This District has a very diversified surface. In the north there is a considerable extent of unbroken common, and woods and copses occur in various spots. In the south, about St. Germans, Sheviock, and Landrake, there is a great deal of good arable and pasture land. The alluvial and sandy ground by the estuary of the little river Seaton produces several interesting plants. The following species are found only in this District :

Ranunculus confusus.

Genista anglica.

Vicia lutea.

Bidens cernua.

Inula Helenium.

Hieracium boreale.

Verbascum nigrum, together with the hybrid *Thapso-nigrum*.

Statice binervosa.

Rumex Hydrolapathum.

R. maximus.

Carex fulva.

II. *West Tamar*.—As the Tamar separates Devon and Cornwall, its basin is divided in order to preserve the proper limits of the counties. This district comprises the portion that belongs to Cornwall. The boundaries are, north, the line of limit; west, the east of District I.; south, the Channel; east, a line through the centre of the Tamar. Its shape is irregular, owing to severance of it and District I. The two might have been combined by treating the Notter as a tributary of the Tamar, had it not been for the disproportionately large division they would have formed. This District is rich in semi-maritime species, owing to the large influx of tidal water up its creeks and streams. On the other hand, ericetal and sylvestral plants are not numerous, owing to a comparatively small extent of heath and woodland. Between Saltash and Calstock much of the aboriginal wood has been destroyed in order to make way for the cultivation of the cherry, strawberry, and other fruits. The following species are found only in this District :

Potentilla argentea.

Valerianella eriocarpa.

Gastridium lendigerum.

The first is perhaps now extinct.

South Devon. III. *East Tamar and Tavy*.—The Devon portion of the watershed of the Tamar would of itself have proved so small and narrow a district that the watershed of the Tavy has been combined with it. This arrangement is a not unnatural one, as the Tavy, although of itself an important river, has quite the character of a tributary of the Tamar. The boundaries of this District are, north, the line of limit; west, the line passing along the Tamar, separating Devon and Cornwall; south, Plymouth Sound; east, the turnpike road leading from Plymouth by Roborough to Prince Town. From having no open line of coast some of the decidedly maritime plants are wanting in this District, but the varied nature of its surface causes it to have a large number of species.

Within it are the only Devonian stations of *Physospermum cornubiense*. The species limited to it are :

- Nasturtium sylvestre.*
- Hypericum linariifolium.*
- Althaea officinalis.*
- Epilobium roseum.*
- Eryngium campestre.*
- Chærophyllum Anthriscus.*
- Lactuca virosa.*
- Hieracium maculatum.*
- Carex axillaris.*
- C. vesicaria.*

IV. *Plym District*.—The boundaries are, north, the line of limit ; west, the east of District III. ; south, the Sound and English Channel ; east, a line drawn from between Shavercomb Head and Yealm Head, on Dartmoor, across Shell Top and Hemerdon Ball, to pass thence about one mile east of Plympton Maurice, and follow the road from Elburton, through Staddiscombe, to the coast at Wembury Point.

Within this District the larger portion of the limestone beds are found, and these have a considerable effect on its flora.

The following species are restricted to it :

- Ranunculus Drouetii.*
- Diplotaxis tenuifolia.*
- Callitricha obtusangula.*
- Tillæa muscosa.*
- Œnanthe pimpinelloides.*
- Picris hieracioides.*
- Hieracium vulgatum.*
- Mentha rubra.*
- Potamogeton pectinatus.*
- Orchis Morio.*
- Habenaria viridis.*
- Ophrys apifera.*
- Convallaria majalis.*
- Allium oleraceum.*
- Carex Pseudo-cyperus.*
- Sclerochloa Borreri.*

A remarkable number of *Rubi* occur in the beautiful Plym Valley.

V. *Yealm District*.—The boundaries are, north, a small portion of District IV. and of VI., which meet above the fountain head of the Yealm ; west, the east of District IV. ; south, the Channel ; east, a line passing

on the western side of Staddon Barrow, due south, on the eastern side of Cadleigh, Worthill, and Westlake, to Holbeton village, thence to follow the road to Revelstoke, and pass to the coast immediately east of Lamb-side. The entire watershed of the Yealm forms this District. The species only found in it are :

- Hypericum hirsutum.*
- Geranium phænum.*
- Polygonatum multiflorum.*
- Scilla autumnalis.*
- Carex punctata.*
- paludosa.*
- Cystopteris fragilis.*
- Chara fœtida.*

VI. *Erme District*.—The boundaries are, north, the line of limit ; west, the east of District v. ; south, the waters of the Channel forming Bigbury Bay ; east, the line of limit in that direction. Almost all the watershed of the Erme is included in this District. About its estuary there are sand-banks and sandy cliffs on which some interesting plants occur. The species limited to this District are :

- Ranunculus circinnatus.*
- Carex Boenninghauseniana.*
- Psamma arenaria.*
- Calamagrostis Epigeios.*

NUMBER OF SPECIES, TYPES OF DISTRIBUTION, &c.

Of the 1680 species named in the *London Catalogue of British Plants*, 873 belong to Plymouth.* Four additional to these will be found numbered and given in the *Flora*. They are *Rubus ramosus*, *R. hirtifolius*, *R. mutabilis*, and *Rumex rupestris*. The last is a recent addition to the British list, and the *Rubi* are inserted for reasons that will appear on referring to the respective notices of them. These four plants bring up the number of Plymouth species to 877. Two species of the *London Catalogue*, *Polygala oxyptera* and *P. depressa*, are united with *P. vulgaris*. Taking this into consideration the actual number of plants common to the Plymouth and British lists is 875. Three firmly established introductions, *Geranium striatum*, *Petasites fragrans*, and *Linaria supina*, appear in the *Flora*, with full particulars ; but, as they are among the "Excluded Species" of the *London Catalogue*, they are not numbered, and of course do not enter into this summary. For a like reason *Valerianella eriocarpa* is excluded in the calculations, though

* This is inclusive of *Myriophyllum alternifolium*, D.C., given in the *Addenda*, p. 398.

admitted into the work in the same way as the three others. Of the 877 Plymouth species the five following are probably extinct, as they have not been seen for many years past :

- Nasturtium palustre.*
- Vicia bithynica.*
- Comarum palustre.*
- Veronica Anagallis.*
- Euphorbia platyphylla.*

The 877 species are divided as follows, with reference strictly to the area :

Natives	728
Denizens	48
Colonists	48
Aliens	37
Casuals	16
	—
	877

As regards their relative frequency they stand as follows ; but of course there are some species which might be placed almost indifferently in either one or another of the lists :

Very common	248
Common	159
Rather common	114
Locally common	41
Rather rare	59
Rare	98
Very rare	153
Probably extinct	5
	—
	877

They come thus under Watson's "Types of Distribution :"

British	484
English	220
Intermediate	3
Scottish	5
Germanic	16
Atlantic	36
	—
	764

The 113 remaining plants are Segregates, Introductions, &c., not classified by Watson.

A SHORT SKETCH

OF THE

PROGRESS OF BOTANICAL INVESTIGATION RELATIVE TO PLYMOUTH.

IN the works of the older writers on British Botany there are very rarely to be found any references to the botany of the neighbourhood of Plymouth. This might be expected, from the distance of the country from the metropolis and other centres of scientific study and investigation. The first notice of a plant as a Plymouth species that I have met with is contained in Johnson's edition of *Gerarde's Herball*, published in 1633. It is of *Cochlearia danica*, which is there described and figured under the name of "*Thlaspi hederacium, Ivy Mustard.*" Johnson's words are : "There is, saith Lobel, in Portland and about Plimouth, and upon other rockes on the sea coast of England, a creeping little herbe having small red, crested stalkes, about a spanne high : the leaves are thicke, and fashioned like Ivy : the white floures and small seeds do in tast and shape resemble the Thlaspies." (*John. Ger. em.* p. 271.)

Parkinson in referring to this account in his *Theatrum Botanicum*, shows himself greatly in error as to the position of the isle of Portland ; for he says : "*Thlaspi hederaceum, Ivie-leaved Treakle-Mustard,* Lobel saith hee found in Portland, which is an island belonging to Cornewall nor farre from Plimmouth in the west of England, and in divers of the sea coastes thereabouts." (*Theat. Bot.* p. 849, fig. 1 p. 848, 1640.)

Lobel also notices a *Scirpus*, either *setaceus* or *Savii*, as a Plymouth species in his *Stirpium Illustrationes*. His account of it is as follows : "*Gramen Juncoides exile omniumque tenuissimum Pleymuense.* Tenuissimum et istud Gramen Junceum, foliis veluti congerie exilioribus gracillimisque filamentis densissime stipatis capitellis asciculorum minoribus, aculeisque donatis. Montosis udis juxta Plymouth in Cornubiæ finibus oriundum. Capillata item radix sesquiuncialis et duarum unciarum." (*L'Obel, Stir. Illus.* [ed. by Guil. How] p. 67, 1655.) It will be seen from this extract that Lobel, too, supposed Plymouth to be in Cornwall.

The *Stirpium Illustrationes** was not published until 1655, long after Lobel's death, so the above description of the plant was preceded by that of Parkinson, in his *Theatrum Botanicum*, published in 1640. He calls it "Gramen junceum maritimum exile Plimostii, Small Sea Rush-grass of Plymouth," and says : "This was found as well at Plimmouth as Dover in their wet grounds." He adds that it, with some other plants, had "not been exhibited by any before." (*Theat. Bot.* p. 1271, with a figure p. 1270.) Dr. Bromfield unhesitatingly asserts Parkinson's plant to be *S. Savii*, saying of it : "It is clearly figured and described in Parkinson's *Theatrum*, p. 1270, fig. 9, as *Gramen junceum exile Plimmotha*, Small Rush-grass of Plymouth." (*Fl. Vect.* p. 545.) Again he says of *S. Savii*, "Known and distinguished as a species by our older botanists." (*Phyt.* ii. pp. 516, 17.) Withering, however, places both a reference to Parkinson's account, and the name, Small Plymouth Rush-grass, under *S. setaceus*. (*Brit. Plants*, iii. p. 103, ed. 7.) Parkinson's figure might belong to either. In addition to the *Cochlearia*, that monstrous production, "The Plymouth Strawberry," is mentioned both by Johnson and Parkinson. (See p. 108.)

I am not aware of there being any subsequent notices of Plymouth plants until the time of the great Ray. He visited Plymouth when travelling with Sir Francis Willughby in the south-west of England for the express purpose of making observations on Natural History. He, in his *Itineraries*, records a number of plants that he met with at certain places in Devon and Cornwall, but among his special stations there are very few lying within twelve miles of Plymouth. One or two of his records are, however, of very great interest in connection with its botany. For instance the notice that on Monday, July 7th, 1662, he and Sir F. Willughby "went on to Plymouth" (from Saltash), "but by the way diverted to Stanehouse, a little town not far from the passage out of Cornwall." Ray adds, "Thence we had a view of Mount Edgcumbe, a brave house, and well situate, belonging to Mr. Edgcumbe, a gentleman of great estate." "On the hill which you ascend after you are come over the passage to go to Plymouth grows *Eryngium vulgare* in great plenty." Ray also mentions their seeing "*Erythrodanum*," or *Rubia peregrina*. What renders these records the more interesting is the fact that both the species still grow in the locality, notwithstanding the very great changes that more than two centuries have effected at the spot, one near to large and increasing towns. For July 5th, 1662, Ray notes : "On a woody bank by a comb to the south of Saltash we first found *Lamium melissa folia*" (*Melittis Melissophyllum*) "growing in great plenty." Ray sub-

* I cannot help suspecting that Lobel must have made some statement as to the situation of the isle of Portland in one or other of the works that he himself published, and that through it Parkinson was misled on the matter. I have not seen his *Stirpium Adversaria Nova, Observations, &c.*

sequently contributed the lists of Devon and Cornwall plants to Bishop Gibson's Camden's *Britannia*, the first edition of which appeared in 1695; but these lists contain nothing new concerning Plymouth botany.

Hudson's *Flora Anglica*, 1762; ed. 2, 1778, &c.; and the Lists of Devon and Cornwall plants in Gough's Camden's *Britannia*, 1789, give very few stations belonging to Plymouth. Those that do will be found quoted under the species to which they respectively relate.

In the year 1797 the Rev. Richard Polwhele brought out the first volume of his *History of Devonshire*, after the second had been issued. Particulars concerning the botanical productions of the county occupy pages 82–100 of vol. i. Among this large amount of matter there are few records connected with Plymouth, so that only a little over a dozen references to the work will be found in this *Flora*. This is the more surprising from the fact that a Mr. Yonge, a member of the ancient family seated at Puslinch, within the area, contributed some of the information. Turner and Dillwyn are greatly indebted to Polwhele for the plant stations they give under Devon in their *Botanist's Guide*, 1805.

Gough's *Camden*, ed. 2, 1806; Polwhele's *History of Cornwall*, vol. iv., 1806; the Lysons' *Cornwall*, 1814, and *Devonshire*, 1822, each supply a few additional notes concerning the botany of Plymouth.

In 1820 the Rev. John Pike Jones, Curate of North Bovey, Devon, published a small work entitled, *A Botanical Tour through various parts of the Counties of Devon and Cornwall*. In the course of the tour he, in company with Mr. George Anderson, F.L.S., visited Plymouth, but recorded little concerning the botany of the locality, being, to use his own words, "too much engaged in inspecting the numerous interesting objects in the immediate neighbourhood to undertake any botanical excursions." A second edition was issued in 1821, but without any additional matter.

In 1829 Jones, in conjunction with J. F. Kingston, published the *Flora Devoniensis*, an important work, of great excellence considering the time at which it appeared. It is still of value to all interested in the botany of the county. It did not, however, add much to the existing knowledge of Plymouth species, being remarkably deficient in records of stations for the neighbourhood of this town. Perhaps this led Mr. George Banks, F.L.S., a silversmith and engraver of Devonport, to begin in the following year the publication of *The Plymouth and Devonport Flora*. It appeared in monthly parts at one shilling each, but ceased after only eight had been issued, containing particulars respecting sixty-two plants, inclusive of two or three garden ones that the author injudiciously admitted. This work has a number of local stations of plants, at many of which the species still grow, and numerous references to it will be met with in the pages of this *Flora*. A laudatory notice of it from Sir William J. Hooker appears in the preface to ed. 3 of the *British Flora*.

About six years after the publication of Banks's work the Rev. John Jacob, LL.D., Master of the Devonport Grammar School and Minister of St. Aubyn Chapel in the same town, commenced the publication of the *West Devon and Cornwall Flora*. It too was issued in monthly parts at one shilling each, but was also left unfinished in the year 1837, after eighteen numbers had appeared, containing notices of 229 plants. Very many of the stations given by Jacob belong to Plymouth. Just before the commencement of this work Watson's *New Botanist's Guide*, vol. i., was published, but with few Plymouth stations in the plant lists for Cornwall and Devon. Two years later vol. ii. appeared, with several for the town and its neighbourhood, most of the new ones having the name of Dr. Bromfield attached.

About the time that Mr. Banks and Dr. Jacob were investigating the botany of Devon and Cornwall, the Rev. John Tozer, a clergyman of the diocese of Exeter, was also giving considerable attention to it, and his name is found in connection with some Plymouth plants, though it does not appear that he himself ever published anything concerning them. Like Mr. Banks, he was a correspondent of Sir William J. Hooker's, and his name is found in some of the early editions of the *British Flora*.

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PHANEROGAMIA.

DICOTYLEDONES.

RANUNCULACEÆ.

CLEMATIS, L.

1. **C. Vitalba**, L. *Traveller's Joy; 'Love Entangled.'*
Native; in hedges and thickets in warm situations; mostly near tidal waters. Rather common. July to September.
- c. I. Near Shillingham, St. Stephens. Markwell.
- II. Cremyll! *Keys, S. D. Lit. Chron.* 169. Weard, near Saltash. Hedge between Penters Cross and Landulph; sparingly. Cotehele.
- d. III. Road from Maristow to Blaxton; *Gould. and H. in S. D. Lit. Chron.*, 131. Still in profusion at Blaxton, and occurring on both sides of the Tavy at Lophill and Beer Ferrers. Hedge by the Cemetery Road, and above the old course of the leat at Mutley Plain, Plymouth. Limestone rubble heaps, Richmond Walk, Devonport. In and near Budshead Wood. Warleigh Wood.
- IV. Crabtree! *Keys, ibid. and Fl.* ii. 25. Pomphlet. Radford. Saltram. On slaty refuse, Cann Quarry. Hedge by Thornbury Lane. Near Elfordleigh.
- V. Hedge between Holbeton and Battisborough Cross, sparingly. Near Dunstone.
- VI. Everywhere in the Southams; *Polwh. Hist. Devonsh.* 89, 90; an exaggeration. Mothecombe.
- First record: *Polwhele*, 1797.

ANEMONE, L.

2. **A. nemorosa**, L.; *Wood Anemone*.
Native; woods and copses. Rather common. March, April.
- c. I. By the Torpoint and Liskeard Road, at Polbathick Wood, and very sparingly on a bank below Wackar Wood. Wood between Seaton and Treloy Farm.

II. Cotehele Wood.

- d. III. Woodlands Wood ; a slight var. here with sepals purplish on the outside from the first, and before fading of a decided purple. Warleigh Wood, and near Combe Farm, Tamerton Foliot, Maristow, and about Denham Bridge. Walkham Valley.
- IV. In abundance at Fancy and Bickleigh ; *Banks Fl.* pt. ii. Still in plenty in woods about Plymbridge, and between that and Bickleigh. Hedge-bank between Marsh Mills and Plympton. Very sparingly by the side of Shalaford Lane, Egg Buckland, 1875.
- VI. Woods of the Erme Valley between Harford and Ivybridge ; also at Caton and Erme Bridge.

Although abundant in certain woods, this has a somewhat local distribution. The leaves are sometimes spotted with the *Aecidium leucospermum*.

RANUNCULUS, L.

3. *R. circinatus*, Sibth. *Rigid-leaved Water Crowfoot.*

Native ; in a stream. Very rare. July, August.

- d. VI. Plentifully in Shilstone Brook at Gutsford Bridge ; also in this stream below Edmeston Farm, close to the Modbury Road.

This differs remarkably from our other aquatic Ranunculi as to the time when it begins to flower.

First record : *Briggs in Jour. Bot.* 1874.

3. *R. peltatus*, Fries.

Native ; rivers and streams. Rare, and very local. April to August, or later.

Var. a. truncatus.

- d. III. In the stream at Lumber Bridge, between Callington and Tavistock.
- V. Yealm Bridge ; *Ravensh. Fl.* i. (as *aquatilis*). In the Yealm, between Lee Mill Bridge and Yeo ; also in a stream close to this river, at Puslinch Bridge.

Var. c. penicillatus, Hiern.

- c. I. Abundant in the stream from the Tiddy that supplies Heskyn and Cutcrew Mills, near Tideford.
- d. VI. In Shilstone Brook, at Gutsford, with *R. circinatus* ; also in streams near Strood, Ermington.

I have never met with flowers on this variety for examination, hence there exists some slight uncertainty as to its being *penicillatus*. It has no floating leaves.

5. **R. Drouetii, Schultz.**

Native ; in a stream and a large pool. Very rare. April to July, or later.

d. IV. Near Longbridge, 1836 ; *Hore* ; *Herb. Ply. Inst.* (as *aquatalis*).

Stream at Shalaford, Egg Buckland, in plenty.

[In a large pool in a marsh between Longbridge and the Shalaford stream, 1863 ; destroyed a few years subsequently by the pool being filled up. Doubtless Mr. Hore's specimen came from one of the two stations named.]

This plant is not typical *Drouetii*, but Mr. Hiern, a great authority on the water Ranunculi, and other leading botanists, consider it that species. The flowers are remarkably large for *Drouetii*. I named it *trichophyllus* in *Jour. Bot.* i. 376.

6. **R. Baudotii, Godron.***b. confusus.*

Native ; in pools close to the coast. Very rare, and extremely local. April to July, or later.

c. I. In pools on the left of the Seaton estuary, close to the coast sands ; growing with *Zannichellia pedicillata*.

Some of the plants have their leaves much blotched and spotted with two shades of dull purple.

7. **R. Lenormandi, F. Schultz.** *Lenormand's Water Crowfoot.*

Native ; in moorland bogs, and in and by streams and pools in the wooded and less cultivated tracts. Locally common. March to September.

c. I. Viverdon Down. Pool in the Notter Valley, between Pillaton and Clapper Bridge ; and elsewhere in that neighbourhood.

d. III. Near Virtuous Lady Mine ; *Keys, Fl.* ii. 27. Roborough Down. Vale between Blaxton and Inchers. Sampford Spiney.IV. Shaugh ; *Keys, S. D. Lit. Chron.* 169. Fursdon, Bircham and Common Wood, Egg Buckland. Lovaton.V. Dartmoor ; *Keys, ibid.* Crownhill Down.

VI. Ivybridge. Erme Valley ; and Blackpool, below the Western Beacon, Dartmoor.

This is quite general in the wet peaty spots and shallow pools of the elevated moorland tracts. It begins to flower much earlier than is stated by some leading British authorities. On Dartmoor its starry flowers peep forth in spring amid surrounding desolation.

First record : *Keys*, 1846.

8. **R. hederaceus, L.** *Ivy-leaved Crowfoot.*

Native ; in pools and ditches ; growing in the shallow water or on the damp mud ; also by roadside rills. Very common. April to August, or later.

Area general; found in the immediate neighbourhood of Plymouth, as at Milehouse, near Lipson Terrace, &c., and over all the enclosed country. In the moorlands *R. Lenormandi* takes its place.

9. *R. sceleratus*, L. Celery-leaved Crowfoot.

Native; in marshes, damp waste spots, and on mud banks in the vicinity of salt or brackish water. Rather common. May to October.

- c. I. Seaton. Tideford. Marsh above Denabole Lake. Below Scraesdon Fort.
- II. Near Saltash. Wilcove. Kingsmill. Halton. Cotehele. Between Calstock and Harewood.
- d. III. Lophill; *Gould. and H. in S. D. Lit. Chron.* 131; ! 1874.
By Tamerton Creek. Blaxton. Beer Ferrers.
- IV. Laira and Chelson Meadow; *Keys, Fl.* ii. 27; latter place!
1879. Crabtree, 1869. Near Longbridge, 1867, &c.
- VI. By a tributary of the Erme at Orcherton.

Evidently less common than in many parts of Britain. There is no record of it for District v.

First record: *Goulding and Harper*, 1846.

10. *R. Flammula*, L. Lesser Spearwort.

Native; in wet or swampy places. Very common. June to September. Area general.

One of the commonest species in the swamps of the moory tracts. It varies greatly in size and luxuriance. We have the small form, *pseudo-reptans*, on some commons. On Crownhill Down this Ranunculus may be seen growing in the damp clay deposited by the water from the Clay Works.

11. *R. auricomus*, L. Wood Crowfoot.

Native; in woods, and in other bushy or shady places. Rare, but widely distributed. April, May.

- c. I. In small quantity on a bank below Wackar Wood, also for about 20 yards at Sconner, and very sparingly close to the 7 milestone from Torpoint; the three stations all between Torpoint and Polbathick. Rather plentifully on a hedge-bank in the Notter Valley, near Pillaton Mill.
- d. III. Towards Maristow; *Gould. and H. in S. D. Lit. Chron.* 131; border of the lawn! 1872. Manadon Wood; *W. S. Hore. Herb. Ply. Inst.*; also *Keys, S. D. Lit. Chron.*, 169; ! 1879. Woodlands Wood, rather sparingly.
- IV. Bank, below a small wood, Plympton; perhaps now extinct.
- V. Hedgebank between Blackpool and Lynham, rather sparingly.

In considerable quantity in woods about the Yealm, between Yealm and Puslinch Bridges.

VI. Rather plentifully on a bank in a lane above Cling Mill, near Kingston.

A sparsely distributed species.

First record : *Goulding and Harper*, 1846.

12. *R. acris*, L. Meadow Crowfoot; ‘Golden Cup.’

Native ; in meadows, marshes, and damp pastures. Very common. May to November. Area general.

In the turf of some garden plots in the town, as well as in the pastures of the moorlands.

13. *R. repens*, L. Creeping Crowfoot; ‘Golden Cup.’

Native ; in waste spots, about ditches, and as a weed in cultivated ground. Very common. April to September. Area general.

This, like *R. acris*, occurs in gardens in the town, and also far out on Dartmoor. Some years ago I found a form with semi-double flowers near Roborough village ; and the common garden plant with very double ones in a waste spot at Antony Passage, St. Stephens, here evidently derived from some garden.

14. *R. bulbosus*, L. Bulbous Crowfoot; ‘Golden Cup.’

Native ; in pastures, meadows, and on banks. Very common. April to June. Area general.

In certain spots a more abundant species than either *acris* or *repens*, though on the whole probably less common than they. On the open commons only sparingly seen, and generally near enclosures. The flowers of this plant, of the two preceding species, and of *R. Ficaria*, are indiscriminately called ‘Golden Cups’ by the country children.

15. *R. hirsutus*, Curt. Hairy Crowfoot.

Native ; in some spots Colonist or Casual. In damp waste spots, and as a weed in cultivated land. Rare. May to August.

c. I. Marsh at the head of Denabole Lake. Marsh, and damp waste spots at Tideford.

II. Fields between Torpoint and St. Johns, 1860 ; *Briggs* in *Phyt.* v. N. S. 368. One plant in a field in same locality ; a few in a damp waste spot near Mendinnick ; in plenty in a clayey field near the latter place, July, 1879. Single plant in a corn-field between Torpoint and Antony, 1879. One near Anderton, 1862. Sparingly in a damp spot in a field between Incsworth and Southdown, 1879. Plentifully in a grass field between Moditonham and Kingsmill, 1879.

- d. III. With *Lepidium Draba* in a waste spot by the Walkham, near the Factory at Horrabridge, May, 1865. A single plant in a damp spot between Saltash Passage and Ernesettle, July, 1873.
- IV. Cattedown: introduced with ballast, May, 1863; one plant, on a ballast heap there, with *Lepidium ruderale*, June, 1875. A few plants in an enclosure on Hemerdon Ball, June, 1869.
- V. In damp spots in a lane, near a farm-house, a little to the N.W. of Battisborough Cross, and also in a neighbouring field, 1868: a single plant by the lane, 1874. One in a waste spot in Yealmpton village, 1872; another by the turnpike road between the village and Kitley Lodge, 1875.

Native probably in Districts I. II. and V.; possibly also at Ernesettle in III. Submaritime in distribution.

First record: *Briggs*, 1861.

- 16. R. parviflorus, L.** *Small-flowered Crowfoot.* Native; on dry banks, in waste spots; and often in arable land. Very common. April to September.

- c. I. Between Millbrook and Crafthole! *Jones, Bot. Tour*, 16. St. Stephens. Sheviock. Pillaton. Polbathick. Tideford, &c.
 II. Between Cawsand and Rame; *Keys, Fl. ii.* 29. Saltash. Wilcove, St. Johns.
 d. III. Plymouth and Saltash Road. Pennycross. Tamerton Foliot.
 IV. Rumple, Fursdon, &c.; Egg Buckland. Plymstock. Staddiscombe. Newnham.
 V. Wembury. Newton Ferrers. Brixton.
 VI. Ringmore. Kingston. Carsewell.

Commoner by far than *R. sceleratus*.

By late autumn seedling plants are often of large size, so that they flower early the succeeding spring. Some of the most luxuriant occasionally produce a few flowers just before the winter frosts.

First record: *Jones*, 1820.

- 17. R. arvensis, L.** *Corn Crowfoot.*

Casual or Colonist; in corn-fields. Very rare. May to July.

- c. II. Four plants in a wheat-field opposite Antony Lodge, by the path to Torpoint, May, 1871.
 d. III. One among vetches in a field between Box Hill and Woodlands, May, 1874.
 IV. Tavistock Railway, near Bickleigh, 1860; *F. P. Balkwill; Herb. Ply. Inst.* Plentifully in a wheat-field by the lane from Plympton to Elburton, July, 1871.
 V. Two plants in a corn-field between Elburton and Halwell, July, 1871.

18. R. *Ficaria*, L. *Lesser Celandine*; ‘*Golden Cup*.’

Native; in damp pastures, orchards; on banks, &c. Very common. Part February to part May. Area general.

Occurs in damp garden-plots in the central part of the town, and extends over all the enclosed country.

Darwin, in his *Plants and Animals under Domestication*, vol. ii. 170, says, “The common little *Ranunculus Ficaria* rarely, and some say never, bears seed in England, France, or Switzerland; but in 1863 I observed seeds on several plants growing near my house.” Abundance of seed is produced yearly in our area, but here small bulbs are seldom or never seen in the axils of the leaves.

The Oil Beetle eats this plant, and its pollen is collected by the Honey Bee. The Peacock Butterfly visits the flowers, probably to feed on their pollen.

I have seen the slight variety *incumbens*, E. B. ed 3, in Districts i. ii. iii. iv., generally as a single specimen at a spot, and nowhere in large quantity; also a variety with flowers of a light or cream-colour between Plymouth and Milehouse, and at two or three other places; and near Ridgway a plant bearing semi-double flowers. A single plant of a curious variety with short, sepal-like petals, green towards the top, yellow below, grew in 1872 and for some subsequent years by the side of the footpath of the turnpike road between Marsh Mills and Plympton St. Mary Church. It has probably been destroyed through an alteration made in the road about 1878. “An apetalous form new to me.”—*Boswell, Rep. Bot. Ex. Club, 1872–74, 7.*

CALTHA, L.

19. C. *palustris*, L. *Marsh Marigold*.

Native; in marshes, swamps, and other moist places. Rather common. March to May.

- c. I. Abundant by the Seaton between Hessenford and the coast.
- II. Cotehele.
- d. III. Manadon Wood; *Keys, S. D. Lit. Chron.* 169. Boxhill, Penny-cross. Tavy Valley. Walkham Valley.
- IV. Plympton! *Keys, Fl. ii.*, 29. Shalaford, Egg Buckland.
- V. Between Lolesbury and Battisborough. Bridgend. Westlake Green. Fordbrook. Lee Mill Bridge. Vale of Kitley Brook.
- VI. Orcherton. Ermington. Between Ludbrook and Ugborough.

Var. b. Guerangerii.

- d. IV. In the Plym Valley a little below Riverford.
 - V. In a swamp in the wood immediately below Lee Mill Bridge.
- The Marsh Marigold might almost indifferently go either into the ‘common’ or ‘rather common’ list.

HELLEBORUS, L.**20. H. viridis, L. Green Hellebore.**

Denizen ; in orchards and on banks near houses. Rare. February to April.

- c. I. On the roadside hedge between Callington and Penters Cross ! *Jour. R. Inst. Corn.* iii. 51 ; on hedge-banks by an orchard near a farm-house ; associated with *Sedum purpurascens* and *Tanacetum vulgare*. It extends for some yards. Several patches on a hedge-bank by an old garden at Trehan, St. Stephens, with *Sedum purpurascens*.
- II. Orchard at Pill, near Saltash ; *E. M. Holmes* ; sparingly ; growing with *Ornithogalum umbellatum*. Three small patches on a hedge-bank below garden ground at Wilcove, 1873.
- d. III. Orchard at Weston Mills ! *Banks, Fl.* pt. i. ; on the hedge-bank of an orchard close to a little garden-plot, 1867. Small patches in two or three spots in, or about, two orchards at Burrington, Pennycross, in one of which *Narcissus biflorus* and *N. pœticus* occur, the latter with semi-double flowers. In some quantity above the left bank of the Tavy, near Lophill, with *Sedum purpurascens*, near an old cottage.
- IV. In an orchard, and on an adjoining hedge-bank, at Elburton. Two patches in another orchard near ; but there planted, as I have been informed. In two orchards near Hay Farm, in the same neighbourhood ; in one associated with *Galanthus nivalis*. Two patches on a hedge-bank close to the garden of Lower Woodford Farm, Plympton St. Mary, 1879.
- V. Hedge-bank close to an old house between Battisborough Cross and Lolesbury. A large patch in an orchard at Hornicombe, near Fordbrook ; on hedge-banks in the vicinity *Chelidonium majus*, *Matricaria Parthenium*, and *Vinca minor*.

First record : *Banks*, 1830.

H. foetidus, Linn. This grew some years ago on a garden-wall or hedge-bank at Crabtree. Banks has recorded it "about Herdwicke," and "at the back of Manadon." It has, however, no claim to a place in the local flora.

AQUILEGIA, L.**21. A. vulgaris, L. Columbine.**

Native ; in copses, woods, orchards, and on hedge-banks. Common. Part of May, June.

- c. I. Pillaton. Near Clapper Bridge ; plants with the ordinary bluish and with white and light flesh-coloured flowers growing near to each other, 1870. About Hessenford. Cutcrew, and between

that and Trerule, some with pinkish-white flowers, 1876. Between Polsco and Sconner.

II. Hay Lane, between Trevol and Antony. Near Wilcove. Botus Fleming, and near Landulph. Between St. Mellion and Halton Quay ; a plant with white flowers close to another, 1874. St. Dominick. Between Ashland and Harrowbarrow ; some with pinkish-white flowers, 1876. Very sparingly between Latchbrook and Notter Bridge ; a plant with white flowers close to another, 1874.

d. III. Very sparingly on a bank between Plymouth and Saltash Passage, 1871. Tamerton Foliot. Between Maristow and Milton ; plant with white flowers close to others, 1874. Beer Ferrers. Wood at Newbridge. Near Horrabridge.

IV. Embankment leading to Saltram Woods ; *Keys, S. D. Lit. Chron.* 169. In many places on the limestone beds between the Plym estuary and Elburton ; seen with white flowers in this tract. Fursdon, &c., Egg Buckland. Near Derriford, at an elevation of 460 to 470 ft. Near Leeford, in rough pasture land adjoining Roborough Down.

V. Orchard near Yealmpton. Venton. Near Slade, Cornwood.

VI. Flete.

Unquestionably indigenous, and not confined to calcareous soil, as it would seem to be in some parts of England. The variety with white flowers is rather frequent.

First record : *Keys*, 1846.

ACONITUM, L.

22. A. Napellus, L. *Monkshood.*

Alien ; on hedge-banks, &c. Very rare. Latter part of May.

d. III. Weston Mills ; questionably wild ; *Keys, S. D. Lit. Chron.*, 169. Orchard at Weston Mills ; *idem. Fl.* ii. 30 ; also Manadon.

IV. Widey ; *Keys, ibid.* Several introduced plants grow at Widey.

V. In plenty on top of a hedge-bank a few gun-shots from the farmhouse of East Sherford, Brixton, extending for about a dozen yards on top of the bank, and for about one on the side of a gutter below, a little way from a pit made apparently to receive refuse from the garden or house. On an adjoining hedge-bank *Matricaria Parthenium*, and in an orchard that it bounds patches of the double-flowered common garden Daffodil.

VI. In considerable quantity on and under a hedge-bank by a meadow with a few old apple trees in it, near Cling Mill ; also for a few yards by a stream in an adjoining meadow. In a neighbouring hedge *Aegopodium Podagraria* and *Viola odorata* close by.

First record : *Keys*, 1846.

BERBERIDACEÆ.

BERBERIS, L.

23. B. *vulgaris*, L. Common Barberry.

Native or denizen ; in hedges and bushy places. Rare. May, part of June.

- c. I. On a hedge-bank, close to a garden-plot, Forder, St. Stephens. Many bushes on the edge of the lawn of Trevolland House, St. Stephens, extending for 7 to 9 yards, close to a station of *Inula Helenium*. Hedge near Moditon Mill, for about 4 yards, near an orchard, and *Ribes Grossularia* in the hedge where it grows. Two bushes in a hedge by an orchard at Leigh. Hedge close to a ruinous house, Horsepool Lane, Sheviock, with *Melissa officinalis*. Here and there for some yards in a hedge at right angles with the old road from Polsco to Polbathick, immediately opposite Polbathick Wood, and away from houses.
- II. Three or four bushes on the right bank of the inlet from St. Johns Lake, between Torpoint and St. Johns ; also plentifully in a hedge extending up from the inlet between two fields ; *Prunus Cerasus* in the locality. A bush in a hedge near Torpoint, by the road to Carbeal. Harewood, probably planted ; 1864.
- d. III. Hedge-bank by Keyham Lane, Stoke Damerel, extending for 2 or 3 yards ; 1874. In a waste bushy spot by a road to Blaxton Ferry from the Tamerton Road ; also in a hedge-row in the first field by the path from Blaxton Cross to Horrabridge. A bush in a hedge-row by the path to Warleigh House from Old Warleigh Lane. A bush in a hedge-row by a garden at Honicknowle. Hedge-row close to an orchard, Milton, Buckland Monachorum.
- IV. Near Plymouth ; *Fl. Dev.* 63. Hedge-row between Widey and Egg Buckland Vicarage, for about 2 to 3 yards. A single bush on the side of a hedge-bank, by a field, above the valley to the west of Egg Buckland Church. Hedge at Colebrook village ; doubtless planted.
- V. Many bushes in a hedge by an orchard at Spriddlestone ; very near where the old Manor House recently stood.

Some bushes unquestionably grow where they were never planted by man, yet it seems impossible to say whether the Barberry is Native or Denizen, especially as the bushes that were certainly not planted occur mostly in localities where there are others in hedge-rows, from which they may have been derived through seed carried by birds, &c.

First record : *Jones and Kingston*, 1829.

PAPAVERACEÆ.

PAPAVER, L.

24. P. Rhæas, L. Common Red Poppy.

Colonist; among corn and other crops; in waste spots and on banks about arable land. Very common. June to September. Area general.

The slight var. *stigosum*, having peduncles with adpressed hairs, seems common. I have seen it in Districts III. IV. V., and Mr. Keys has recorded it from District II. I have also noticed a variety with light flowers.

25. P. dubium, L. Long Smooth-headed Poppy.

Colonist; on dry or stony banks and wall-tops, and sometimes as a garden weed. Rather common, yet local. May, June.

a. *Lamottei*, Bor.

- c. I. Tregunnus. Downderry. Turnpike-road between Antony Lodge and the village.
- II. Border of a field by the Tamar, between Saltash and Weard Quay; 1872.
- d. III. In plenty on a dry hedge-bank between Milehouse and Penlee Villas, Stoke Damerel, 1875. Plymouth and Saltash Road. Beer Ferrers.
- IV. Crabtree; Keys, Fl. ii. 32 (as *dubium*); ! 1875.

b. *Lecocqii*, Lamotte.

- d. III. Two plants on a dry bank behind Peverell Terrace, Mutley, June, 1875. A few on both sides of the Devonport and Tavistock Road, near Pounds, 1875.
- IV. Cattedown quarries; Hore; Keys, ibid. (simply as *P. dubium*). On old walls between Deadman's Bay and Cattedown, 1875. A single plant in the waste ground at West Hoe, Plymouth, June, 1876. Plentifully as a weed in a garden at South Devon Place, Plymouth, 1871. Hartley, 1871. Bank at Lipson, June, 1871, and May, 1875.

Professor Babington's character of "sap becoming dark yellow in the air" has been relied on to mark *Lecocqii*. I have failed to find any other characters whereby to distinguish it from *Lamottei*.

The damp summer of 1878 was singularly unfavourable for the production of *P. dubium*, for I could not find a single example throughout it. Perhaps the wet caused all the young plants to be eaten up by slugs.

26. P. Argemone, L. Long Prickly-headed Poppy.

Colonist; in corn-fields and dry waste spots. Rare and local. May to September.

- c. II. Field between Torpoint and St. Johns, July, 1860; *Phyt.* v. N. S. 368; also subsequently. In same neighbourhood, at waste spot, Trevol, 1863; and single specimen in a quarry near St. Johns village, 1871. Several by Military Road, near Rame, 1866.
- d. IV. Field above the Fort, Staddon Heights, near Plymouth; *Jacob Fl.* pt. 6. On S.D. Railway, Crabtree; *Keys, Fl.* ii. 31; 1876. Near Down Thomas, 1865, &c.
- V. A plant in arable land adjoining Gurrows Down, Revelstoke, 1873.
- VI. Between Kingston and Ringmore, among corn, 1865, 1875. In plenty in a field at Scotcombe, Kingston, 1875; one plant in a wheat-field there, 1876.

Notwithstanding the abundance of seed borne by the poppies only few plants of this are usually found at any one spot.

First record: *Jacob*, 1835.

- 27. *P. hybridum*, Linn. Round Prickly-headed Poppy.**
- Colonist; in dry corn-fields and waste spots. Rare and local. June to September.
 - c. II. Two plants in a sandy spot by the road above Whitsand Bay, between Rame and St. Winnow, 1871; again two, 1875. In plenty among oats near Rame Church, 1875.
 - d. IV. Staddon Heights! *Rev. J. S. Tozer, Fl. Dev.* 90. Grows plentifully in a field above the Fort, Staddon Heights, where it was first pointed out to me by the Rev. J. S. Tozer; *Jacob, Fl.* pt. 6. Between Bovisand and Wembury, 1866 (not precisely noted at the time, and may belong to District v.).
 - V. Wembury! *Keys, Fl.* ii. 32: one among wheat near the Church, 1865; rather plentifully among swedes in a field by Cliff Road, 1873; in moderate quantity in a corn-field near Langdon, 1875. Revelstoke; a plant among barley by Gurrows Down, 1873; in two corn-fields, but only one plant seen in each, near Worsewell, 1875; also one plant each in two near Caulstone, 1876.
 - VI. Very sparingly in a wheat-field between Kingston and Ringmore, 1865; seen again, 1875. One plant in a field near the Anchorist Rock, 1873.

All the stations are in the vicinity of the coast, and the species must be held to be submaritime; as also *P. Argemone* in a less degree. The above records show in what small numbers it is usually found.

First record: *Jones and Kingston*, 1829.

P. somniferum, L. Occurs only as a rare casual on rubbish or manure heaps, about gardens, &c.

Meconopsis cambrica, Vig. I believe that wherever this has been

found about Plymouth it has been simply ‘a stray’ from gardens, or an introduction. Mr. Keys has the stations “near Ivybridge, but doubtfully wild,” and “banks of the Tamar, near Calstock;” and Mr. Pascoe, in *Bot. Gaz.* ii. 38, indicates his having seen a dried specimen from “near Calstock,” collected by the Rev. C. A. Johns. The late Rev. Collins Trelawny succeeded in establishing it, and some other rare, or reputed, British species, in his grounds at Ham, in District III.

GLAUCIUM, *Tournef.*

28. *G. luteum*, Scop. *Yellow Horn Poppy.*

Native; on coast sands and adjacent cliffs. Rare. June to August.

- c. I. On the shore near Crafthole; *Jones, Tour*, 16; Sand-bank, Seaton.
- II. Whitsands! one mile west of Lugger’s Cave; *Banks, Fl.* pt. 6. Field close to the sea-shore, Whitsand Bay, near Tregantle; *Jacob, Fl.* pt. 6.
- d. IV. Bovisand! *Banks, ibid.*
- V. Church-sands, Wembury, *Rev. Dr. Jacob; Banks, ibid. Jacob, Fl., ibid.*

First record: *Jones*, 1820.

CHELIDONIUM, *L.*

29. *C. majus*, L. *Common Celandine.*

Denizen; on walls, on banks, and in rocky or stony waste spots; always about houses. Rather common. May to September.

- c. I. Tideford; *Keys, Fl.* ii. 33; on a wall below a garden! 1874; also at Tideford Cross, with *Smyrnium*, near houses.
- II. Forder Hill, near Rame; *Jacob, Fl.* pt. 10, in large quantity; ! 1876. St. Johns. Pill, and Weard, near Saltash. Close to Bittleford farm-house, near Pentillie. Cotehele, and between Calstock and Weir Head.
- d. III. [Ford Lane]; about Honicknowle, Tamerton, and Boxhill; *Banks, Fl.* pt. 3; at Boxhill, with *Viola odorata* and *Anchusa sempervirens*! 1872; at Honicknowle, on the outer side of a garden hedge-bank, near *Melissa officinalis*! 1879. Near Tamerton; *Jacob, Fl.* pt. 10. Knackersknowle, wall by a garden. Plentifully between Lophill and Milton, and near a farmhouse between Lophill and Beer Ferrers. Holes Hole. Close to a cottage between Buckland Monachorum and Denham Bridge.
- IV. About Compton; *Banks, ibid*! 1876. Mutley Plain, on a wall below the turnpike-road, 1879: likely to be soon destroyed by building. Egg Buckland; near the Vicarage House, at Widey,

Fursdon, Bircham, and Thornbury. Elburton, close to the village, and near Hay farm-house. Plympton Maurice. Colebrook village, and by some cottages between it and Bickleigh.

V. Spridlestone, Fordbrook, and Wiverton, Brixton. Bridgend. About Yealmpton. Noss Mayo. Venton.

VI. Kingston. Caton. Godwell, near Ivybridge.

Some British botanists seem to be doubtful as to the position of this in their flora, but the circumstances under which it appears in the neighbourhood of Plymouth mark it out as only a naturalized species, not found away from human habitations, and generally associated with other plants belonging either to the Alien or Denizen class. Its old reputation for curing affections of the eyes has not quite passed away in our rural districts; for I a few years ago heard an old countryman greatly laud its virtue, and speak of the benefit he had himself derived from its use in an eye complaint. *Jour. Bot.* i. N. S. 260. Though often found only in small quantity at any one spot, it is nevertheless remarkably persistent at its stations.

First record: *Banks*, 1830.

FUMARIACEÆ.

CORYDALIS, DC.

30. C. lutea, DC. *Yellow Corydalis.*

Alien; about gardens. Very rare. May to September.

c. II. Millbrook; *Keys, Fl.* ii., 34; on a wall close to the town at the end of the Lake! 1860.

d. III. About Beer Ferrers and Beer Alston, not uncommon; *Fl. Dev.* 119; no recent record.

IV. Efford; *Keys, ibid.* A plant below a garden wall, Plymstock, 1871.

V. Sparingly on two walls by gardens in Yealmpton village, 1875.
Not justly entitled to a place in our list.

31. C. claviculata, DC. *Climbing Corydalis.*

Native; in damp, rocky, bushy, or shaded spots. Rather, though locally, common. April to October.

c. I. On a mass of rock below a wood in the Notter Valley, between Clapper Bridge and Derniford Farm, 1874.

d. III. Hedge-bank between Tamerton Foliot and Porsham Farm, at Harenapp. Wood between Blaxton and Inchers. Between Maristow and Milton. About the rocks at Double Water.

IV. Bovisand! behind the Preventive Cottages; Bickleigh; Shaugh; *Keys, S. D. Lit. Chron.* 277. Sheepstor; *idem, Fl.* ii., 34. Wood

between Staddiscombe and Gooswell, Plymstock. Hedge-bank close to Egg Buckland village ; sprung up after the vegetation had been destroyed by fire ; May, 1866 : not noticed before at the spot, nor now to be seen there. In damp, rocky spots in many of the woods in or about the Plym valley. Newnham, Elfordleigh, and Tory Brook Vale.

- V. On damp wall-tops under trees between Cornwood and Hanger Down. Yealm Vale, between Cornwood Vicarage and Dartmoor ; and about rocks on Dartmoor, by Broadall Brook.
- VI. Above Bigbury Bay near Kingston village, and on Kingston Rock. Bank near the Modbury Gas Works. Harford.

FUMARIA, L.

32. *F. confusa*, Jord. *Rampant Fumitory*.

Colonist ; on the borders of cultivated fields, about hedges, and in arable land. Very common. April to October.

- c. I. Downderry. St. Stephens. Pillaton.
- II. Torpoint. St. Johns. Saltash and Callington Road.
- d. III. Between Ford and Keyham Farm, 1874. Pennycross. Blaxton. Between Milton and Lophill.
- IV. Compton. Egg Buckland. Plympton St. Mary.
- V. Revelstoke. Cornwood.
- VI. Kingston. Holbeton. Ermington.

I now believe that all the Fumitory of the neighbourhood of Plymouth assignable to the old aggregate *F. capreolata*, L., must be held to be *F. confusa*, Jord. I have formed this opinion only after the examination of numbers of fresh specimens, and not without hesitation, since some great authorities on British plants have been disposed to name otherwise certain dried specimens. Our examples vary greatly as to the depth of colour in the flowers, in size, and in luxuriance, but not, I consider, in any characters of importance. We certainly have not true *F. pallidiflora*, Jord., which I have seen elsewhere in both Devon and Cornwall, and which differs remarkably from *confusa*.

33. *F. officinalis*, L. *Common Fumitory*.

Colonist ; in arable land, and as a garden weed. Common. May to October.

- c. I. St. Stephens. Between Heskyn and Cutmere Bridge.
- II. St. Johns. Antony.
- d. III. Between Plymouth and Saltash. Pennycross. Whitleigh.
- IV. Near Down Thomas. Plymstock. Thornbury, Egg Buckland.
- V. Wembury. Lambside. Revelstoke.
- VI. Pamflete. Kingston.

CRUCIFERÆ.

CAKILE, *Tournef.*34. **C. maritima**, *Scop.* *Sea Rocket.*

Native ; on coast sands. Common. Part June to September.

- c. I. On the shore near Crafthole ; *Jones, Tour*, 16. Port Wrinkle. Downderry.
- II. Whitsands ; *Banks, Fl.* pt. 6.
- d. IV. Bovisand, Mount Batten ; *Banks, ibid.*
- V. Wembury. Wadham, by Bigbury Bay.
- VI. On both sides of the Erme estuary.

First record : *Jones*, 1820.

RAPHANUS, *L.*35. **R. Raphanistrum**, *L.* *Wild Radish.*

Colonist or Casual ; in corn-fields and waste spots. Very rare. June to October.

- c. I. Seven or eight plants, with *Erysimum cheiranthoides* and *Chrysanthemum segetum*, in a waste spot in a field below Screasdon Fort, 1871. One in a turnip-field near Crafthole, 1876.
- d. III. One, with white flowers, close to a house by the Plymouth and Saltash Road, 1873. Two, with *Trifolium incarnatum*, in a field near Saltash Passage, 1874. One in a neglected plot of ground, Knackersknowle, 1873.
- IV. In cultivated ground, Common Wood, Egg Buckland, 1863. One plant in a waste spot, Crabtree, 1872.
- V. Very plentiful amongst wheat, in a field above the coast, between Bovisand and Wembury, June, 1866.

The plant with white flowers is never more than a casual.

36. **R. maritimus**, *Sm.* *Sea Radish.*

Native ; on shores and cliffs by the sea. Very rare. May to September.

- c. I. Seaton, a few plants, June, 1869 ; one, 1876.
- II. Three or four on a cliff between Mount Edgcumbe and Kingsand, 1867, and previously.
- d. VI. In plenty by Bigbury Bay, about the mouth of the small stream below Kingston village ; occurring also on a cliff a little to the west, and likewise on the top of a hedge-bank nearer Ringmore, 1875.

First record : *Briggs.*

SINAPIS, L.**37. S. arvensis, L. Common Charlock, 'Charlick.'**

Colonist, or Native ; in arable land, on banks and in waste spots about cultivated fields. March to November. Very common. Area general.

One of the commonest weeds among corn and other crops, often making fields of a golden yellow with its flowers. A plant with flowers of a cream colour, with others, in a field near Langdon (District V.), August, 1875.

The name of the genus, *Sinapis*, or rather its old English equivalent, Senvy, has been corrupted by the countryfolk into 'Siney,' and is now applied by them not to the Charlock, nor to any species of the genus, but to another plant of the Order Cruciferae, the *Hesperis matronalis*, the double variety of which is common in their gardens.

38. S. alba, L. White Mustard.

Colonist, or Casual ; a weed in arable land, and a 'stray' from gardens.

Rare, and perhaps nowhere permanent. June to October.

- c. II. Several plants scattered about a field of rape or swedes near Antony village ; likely to have been sown with the crop, 1876.
- d. III. A plant or two in a waste spot at Stoke Damerel, 1865.
- IV. In a field near Staddiscombe village ; growing rather plentifully with a crop of mangold wurzel, 1866. In very great abundance with rape in a field between Elburton and Plympton, 1866. In a field of rape between Marsh Mills and Plympton, 1869.
- V. In a field of rape near Bridgend, June, 1874 ; a few plants among turnips in same neighbourhood, 1874. Among rape in a field between Staddiscombe and Fordbrook, in plenty, but apparently sown with the crop, 1867. In tolerable quantity in a wheaten arish near Blachford, Cornwood, 1878.

39. S. nigra, L. Black Mustard.

Native ; on banks, in waste spots, and on sea-cliffs. Common. May to September.

- c. I. Port Wrinkle and Seaton. Sheviock. Tideford.
- II. Near Saltash ; *Keys, Fl.* ii. 39. Near Torpoint. Cargreen.
- d. III. Hedge-bank by the stream, Pennycomequick, and Townsend Hill, Plymouth. Government Ground, Devonport. St. Budeaux. Tamerton Foliot. Holes Hole.
- IV. On limestone rubble at Cattedown and Oreston. Hedge-bank in the vale between Billacombe and Elburton. Lipson. Stoneybridge, Egg Buckland. Plympton St. Mary.

- V. Cliff by Bigbury Bay, near Revelstoke Church. Wembury. Newton Ferrers.
- VI. Pamflete. Between Yealm Bridge and Ermington.
This looks more clearly indigenous than any other species of the genus.
It is sometimes biennial.

BRASSICA, Bois.

40. B. Rapa, L. Wild Turnip.

b. sylvestris.

Colonist; on banks. Rare. April to June. Biennial.

- c. II. Several plants on a hedge-bank near Torpoint, 1873; some on one between that and St. Johns, 1875.
- d. III. On top of a hedge-bank by the field-path between Pennycomequick and Prospect, 1873, and in previous years; perhaps extinct. Four plants by Ham Lane, Pennycross, 1872. Field hedge-bank between Horsham Farm and Blaxton, 1871. A few on one between Maristow and Blaxton Farm, 1871.
- IV. Railway-bank, Lipson; about half a dozen plants, April, 1875, and in some previous years. A few plants (but perhaps rather *c. Briggsii*) on the side of a pit in a field at Turnchapel, 1874.

V. A large plant on a hedge-bank at Wembury, 1877.

- VI. Two or three on one near Okinbury farm-house, between Kingston and Ringmore; about the same number between Kingston village and Scotscombe, 1875.

This plant is precisely the same as the Thames-side Brassica, which Watson considers "the wild state of the turnip."

c. Briggsii.

Colonist; in arable land with Turnips or other crops, and casually in waste spots where manure has been deposited, &c. Rather common. May to October. Annual.

- c. I. Plentifully in a field near Triffle farm-house, St. Germans, 1874; in same neighbourhood, 1875. Between Downderry and Seaton, spread to a cliff, 1876. Amongst turnips, rape, and mangold wurzel, near Polbathick, 1874. Two or three plants in a waste spot near Notter farm-house, 1874.
- II. In plenty as a weed among potatoes in two fields near Torpoint, June, 1872; in a field of swedes in the same neighbourhood, November, 1879. In abundance among turnips in a field close to Wiggle farm-house, Rame, 1874. Abundant among swedes or rape in a field above Millbrook Lake, 1875. With turnips above Whitsand Bay, near Rame Head, 1876. Between Rame Head and Penlee Point, 1877. St. Dominick.
- d. III. Very sparingly with mangold wurzel in a field between Penny-

comequick and Prospect, 1876. Sparingly in a field of turnips near Buckland Abbey, 1875.

- IV. A few plants (apparently this, but with the characteristic early root-leaves wanting) near Egg Buckland, November, 1877. One in a field of vegetables near Laira, 1877.
 V. Wembury; a few plants on the side of a low cliff, 1878; again in pasture land above the High Cliffs, 1879. In considerable quantity in a field of turnips near Yeo, 1870; one plant by roadside there, 1879.

This *var. c.* is an annual plant, with grass green, more or less hispid root-leaves, of which Mr. Watson says, "I am tempted to call it the wild stock (not the wild state) of the turnip;" and except that it is annual, and has a fusiform root, it certainly has no good characters whereby to distinguish it from the cultivated turnip. Some of the Torpoint specimens had in June, 1872, run up so quickly into flower that few or no root-leaves were developed; but cultivation of the plant thence has since proved that normally its first root-leaves are characteristic of the *var. Briggsii*. (See *Jour. Bot.* ii. N. S. 99, 100.) Probably this is often misnamed *B. Napus*.

B. Napus, *Rape*, and *B. Rutabaga*, *Swede*, only occur as remnants of a crop.

DIPLOTAXIS, D.C.

41. *D. tenuifolia*, D.C. *Fine-leaved Wall Mustard.*

Denizen; on limestone rubble and old walls. Very rare. June to October.

- c. II. [New Bridge; *C. A. Johns, Jacob. Fl.* part 13. No recent record.]
 d. IV. Plentifully in Catdown (Cattedown) quarries; *Jacob, ibid.* In profusion on walls about Plymouth; Catsdown (Cattedown) quarries, on the rubbish heaps, *W. A. Bromfield, MS.* in *N. Bot. Guide*, ii. 551. (Here probably confused with the large form of *D. muralis*.) Still on the wall of an old lime-kiln at Cattedown, and also on the rubbish-heaps in two or three spots; but not general there. Two plants in the old ship-building yard at Turnchapel, 1873.

First record: *Jacob*, 1836.

42. *D. muralis*, D.C. *Wall or Sand Mustard.*

Colonist probably; on walls and banks in waste spots, and as a garden weed. Rather rare, and decidedly local; but apparently extending its area. May to October.

- c. I. Two plants in a waste spot by an old quarry between Tideford and Heskyn Mill, June, 1876.
 II. Two or three by a roadside at Torpoint, August, 1871.

D. III. Mutley ! *Keys, S. D. Lit. Chron.* 385. I have not seen it in the locality for several years ; *idem. in Fl.* ii. 40. There in 1879 ; but may be soon destroyed by building. Under the south boundary wall of the Plymouth Cemetery, 1879, and in previous years. Road on the eastern side of Penlee Villas, Stoke Damerel. By a foot-path, Ford, 1867. Near Pounds, 1870. Garden in Caroline Place, Stonehouse, 1871. Crownhill, Knackersknowle, 1868 ; also 1871.

IV. Catdown ! *Keys, S. D. Lit. Chron.* 385 ; also *in Phyt.* iii. 1024, and *Fl., ibid.* In many places around Plymouth, and occasionally as a weed in gardens in the town : on a wall at the back of Sherwell House ; in waste ground near West Hoe Terrace, &c. Between Hartley and Compton village. One plant at Ridgway, August, 1872. On the line of the Great Western Railway at Crabtree, with *Linaria supina* ; the two plants doubtless brought with limestone rubble from Cattedown, 1877.

At many, perhaps all of the above stations, the plant is the large form, *Babingtonii*.

First record : *Keys*, 1846 ? (See under *D. muralis*.)

SISYMBRIUM, L.

43. S. officinale, Scop. *Hedge Mustard.*

Native ; in waste spots, by roadsides, and as a weed in cultivated land. Very common. May to October. Area general.

44. S. Alliaria, Scop. *Garlic Hedge Mustard.*

Native ; on hedge-banks and in waste spots. Very common. April to May. Area general ; in the immediate neighbourhood of the town ; at Mutley, Tothill, &c. Biennial.

So early in the year as March some plants will be found of large size ; others so small as to have only the cotyledones and a couple of immature leaves. Seed shed in the summer does not spring up until the early part of the following year, and the plants produced do not flower until the spring of the succeeding year. The large spring plants are a year in advance of the small ones.

S. Sophia, L. Near Denham Bridge ; *Jacob. Fl.* Statement unconfirmed.

ERYSIMUM, L.

45. E. cheiranthoides, L. *Treacle Hedge Mustard.*

Colonist ; a weed in arable land, and adjacent waste spots. Rare. July to October.

- c. I. About half-a-dozen plants below Screasdon Fort, with *Raphanus Raphanistrum, Chrysanthemum segetum, &c.*, 1871.
- II. One among potatoes near Torpoint, 1872.
- d. III. In some quantity in a field between Buckland Monachorum and Roborough Down, 1861. A few plants among turnips near Horrabridge Station, 1862. In considerable quantity among mangold wurzel in a field near Beer Alston, 1875.
- IV. A plant in a corn-field at Shaugh, and another in the road between that and Bickleigh Station, 1861. One in a corn-field at Common Wood, Egg Buckland, 1872.

E. orientale, Br. "It came up spontaneously in a field that had been ploughed to form a garden in the centre of the new [Princess?] square at Plymouth. Rev. J. S. Tozer."—*Hook., Brit. Fl. ed. 3*, 308. 1835.

CHEIRANTHUS, L.

46. C. Cheiri, L. *Wallflower.*

Alien, or Denizen; on walls about gardens and houses; extending rarely to adjacent rocky spots. Rather common. April to June.

- c. I. Tidford; on a garden wall with *Antirrhinum majus*.
- II. Kingsand. Millbrook. Torpoint. Saltash.
- d. III. Railway cutting near St. Michael's Church, Stoke Damerel. Rocky cuttings between Richmond Walk and Mount Wise, Devonport. Tamerton Foliot.
- IV. [On top of the old arch of the Friary, Exeter Street, Plymouth, 1873; arch removed a few years after.] Oreston. Plympton.
- V. Noss Mayo. Yealmpton.

CARDAMINE, L.

47. C. pratensis, L. *Meadow Lady's Smock.*

Native; in marshes, meadows, by streams, and in other damp spots. Very common. April to June. Area general.

- c. I. Plant with white flowers near Polscro Mill, Sheviock, 1874.
- II. With double flowers by a cross lane leading towards Pillaton from between Hatt and Penters Cross.
- d. III. A few plants with double flowers in a strip of pasture in front of Valletort Villas, by Park Road, Plymouth, 1879.
- IV. With double flowers, Radford, Plymstock! *Keys, Fl. ii.* 37; Plympton St. Mary. Rock and Widey, Egg Buckland.
- V. With double flowers, near Yealm Bridge; also at Yeo and between Kitley and Yealmpton. Near Cholwichtown and Slade.
- VI. With white flowers, between Ermington and Ugborough.

The form with double flowers is rather frequent. This plant occurs close to the town of Devonport, in the trench of the fortifications.

48. C. hirsuta, L. *Hairy-leaved Lady's Smock, 'Lamb Cress.'*

Native ; on wall tops, rocky banks, &c. Very common. February to April, and sometimes later. Area general.

This begins to flower considerably earlier than *C. sylvatica*, and by the second or third week in April is shedding many of its seeds, when the latter is scarcely in full flower. On luxuriant specimens some of the flowers have not unfrequently five stamens.

49. C. sylvatica, Link.

Native ; about roadside rills and springs ; on banks and walls in shady or wooded situations. Very common. From near the end of March to May ; again in autumn. Area general.

This often grows with *C. hirsuta* on damp walls. It is plentiful in all the districts, and sometimes occurs as a weed in the turf of garden-plots in the town of Plymouth.

ARABIS, L.**50. A. thaliana, L.** *Thale Cress.*

Native ; on dry hedge-banks and walls ; and rarely as a weed in arable land. Very common. March to May : sometimes in the autumn. Area general.

Occurs on the outskirts of Plymouth, as at Tothill, Milehouse, &c., and is a very frequent annual on walls and dry banks about the towns and villages of the Districts.

51. A. hirsuta, Br. *Hairy Wall Cress.*

Native ; on dry, stony, or rocky limestone banks, and in old quarries ; also on walls. Rare, and very local. May, June.

d. III. Walls at the bottom of Catherine Street, Devonport, and the Laboratory, Mount Wise; *Jacob, Fl.* part 13: in plenty on the Dockyard wall near St. Mary's Church, 1879. (Between Pennycomequick and Stoke, 1849); *Keys, Fl.* ii. 36.

IV. Plentiful about Turnchapel! *Jacob, ibid.* Occurs in many places on the limestone from the eastern side of Cattewater on to near Elburton : as at Mount Batten, on rubble and rock at the Oreston Quarries, on two walls, &c., at Pomphlet, at Billacombe, and near Hay Farm, on the limestone plateau near Elburton, &c.

V. Wall near Yealm Bridge, rather plentifully, 1863.

Although this is strikingly a species of the limestone, yet its range is less extensive than the area of the limestone beds.

First record : *Jacob, 1836.*

A. petræa, Lam. Wigvor Down, near Meavy, betwixt the gully and the gate leading to Greenvil Farm—*Sir Francis Drake and Mr. Hudson;*

Fl. Dev. 110 (under name of *Arabis hispida*). Error, doubtless. I have searched the locality named, and found *Teesdalia* there. The Sir Francis Drake is probably he who is thus ill-naturedly spoken of by Polwhele: "The late Sir Francis Drake, of Nutwell, is said to have been a proficient in botany. . . . During his occasional residences in Devonshire he was pleased to confine himself within the narrow circuit of his own grounds; averse from social communication, and particularly inaccessible to men of talents and literature." *Hist. Devonsh.*

BARBAREA, *R. Brown.*

52. *B. vulgaris*, *Brown.* *Yellow Rocket.*

Native; in damp, waste spots, mostly about houses and by road-sides. Common. May, June.

- c. I. Trematon. Sheviock. Hessenford. Tideford. Pillaton.
- II. Between Millbrook and Crafthole; *Jones, Tour*, 16; meadows by the Tamar, near Newbridge; *ibid.* 40 (as *Erysimum barbarea*). Antony. Saltash. Landulph. St. Dominick.
- d. III. Between Plymouth and Milehouse. Government Ground, by the Raglan Barracks, Devonport, 1874. Pennycross. Tamerton Foliot. Beer Ferrers. Roborough.
- IV. Near Lipson Terrace and Tothill, Plymouth. Crabtree. Leigham and Fursdon, Egg Buckland. Pomphlet. Plympton St. Mary.
- V. Wembury. Brixton. Lee Mill Bridge.
- VI. Kingston. Mothecombe. Ermington.

A handsome double-flowered variety is sometimes seen in gardens.

First record: *Jones*, 1820.

53. *B. intermedia*, *Bor.* *Intermediate Yellow Rocket.*

Colonist; established in a few spots. In cultivated fields; by roadsides and in waste spots. Rare. April, May.

- c. I. A plant or two on a bank at Leigh, near Pillaton, 1870; over two dozen there, 1873.
- d. III. In a quarry by the Plymouth and Saltash Road, 1863; also on the bank of the railway line on the opposite side of the road, 1866; still in the quarry in considerable quantity, 1879. Road-side near Barn farm-house, between the Plymouth and Saltash Road and Bull Point, 1867; in plenty, 1879. Sparingly about King's Tamerton and St. Budeaux village, 1867; 1878; &c. By Looseleigh Lane, near Upland, Tamerton Foliot, 1867; 1878; &c.; also by the Plymouth and Tavistock Road, near Down House, 1874, &c.
- IV. Plentiful in a field at Common Wood, Egg Buckland, and one plant in an adjoining field, 1865; in considerable quantity in

one there, 1876. Many plants in a field by Thornbury Lane, Egg Buckland, and about half a dozen on an adjoining hedge-bank, 1866; a dozen or two on the border of a field and a hedge-bank at Fursdon, in the same neighbourhood, 1878. Eight or nine plants by the lane between Higher Leigham farm-house and Plymbridge, 1872; two by Plymbridge Road, 1876.

Mr. Watson now thinks the above plant, sent him from Common Wood, the *intermedia* of the London Catalogue and of E. B. ed. 3. When he published *Comp. Cyb. Brit.* he was not satisfied as to the Plymouth *intermedia* being the true plant, similar to the ones from Cheshire and Lancashire (p. 484).

It begins to flower a little earlier than *B. vulgaris*. The petals are narrower than those of either *vulgaris* or *præcox*.

First recorded as a Plymouth species by Mr. J. G. Baker in *Bot. Ex. Club. Rep.* 1863, 6, through my having sent specimens from the station by the Plymouth and Saltash Road.

54. *B. præcox*, Br. *Early Winter Cress.*

Colonist or Denizen; in waste places about houses; by roadsides, about quarries, and on banks. Rather common. April, May; and sometimes later.

- c. I. St. Stephens. Screasdon. Hessenford. Near Trerule toll-gate, and between Heskyn Mill and Cutcrew. Near Pillaton.
- II. Saltash. Millbrook. Near a slate quarry and elsewhere between Torpoint and Antony. Carkeel. Elbridge. Cargreen. Gunnislake.
- d. III. Stoke churchyard and neighbourhood; *Jacob, Fl. pt. 2.* I have seen it in several spots about Stoke and Devonport. About a quarry near Ford. Prospect, Pennycross. Knackersknowle and Tamerton Foliot. Blaxton. Between Lophill Ferry and Gnatham, and between Beer Alston and Holes Hole. Pasture by the Tavy, a little below Denham Bridge. Between Lophill and Milton. Near the Factory, Horrabridge.
- IV. Plentiful about the Embankment on the road to Crabtree and near Laira Bridge; *Jacob; ibid.* Still to be seen at Crabtree. Between Plymouth and Lipson. Cattedown. Allowpit, Egg Buckland. In plenty on a bank away from houses in a lane between Herdwicke and the Plympton and Elburton Road, 1871. Near Chaddlewood.
- V. On slaty refuse above Coffleet Lake. By a slate quarry at Gorlofen, Brixton. Dunstone. Yealm Bridge.
- VI. On a hedge-bank between Kingston and Ringmore. Near Sequers Bridge. Ivybridge.

Dr. Jacob, after giving the stations that have his name attached, speaks of this as "by no means common elsewhere." That was over forty years ago; it is now thoroughly established in many other spots, appearing at them year after year. It is probable that even in Dr. Jacob's time it was more generally diffused than he supposed.

First record : *Jacob*, 1835.

NASTURTIUM, R. Brown.

55. N. officinale, Brown. Water Cress.

Native ; in and by streams, rills, and ditches. Very common.

June to September. Area general.

The 'var. *siifolium*' seems to be only a form or state of the plant dependent on luxuriance.

56. N. sylvestre, Brown. Creeping Yellow Cress.

Native ; in rocky or stony places by rivers, and in damp ground.

Very rare. June to September.

d. III. Banks of the Tavy, near Maristow ; *Jacob*, Fl. part 12 ; refound !

1875, *Mr. F. H. Goulding*. I have also seen it in the bed of the Tavy at Tavistock, a little beyond the area. By the Walkham at Double Water, very sparingly, 1862 ; perhaps now extinct. In plenty over many square yards of ground in the new Stoke Damerel Cemetery ; apparently indigenous, but overlooked in the damp marshy field until it was laid out for a burying-ground, and drained : discovered by my brother, Major Briggs, in 1877.

First record : *Jacob*, 1836.

57. N. palustre, D.C.

Native ? Extinct ? No recent record.

c. I. Banks of the Lynher (Notter), near St. Germans ; *Jacob*, Fl. part 12.

II. Branches of the Tamar ; Rev. C. A. Johns and Dr. Jacob ; Pascoe in Bot. Gaz. ii. 38 ; with a mark attached to indicate his having seen a dried specimen there. Mr. Pascoe may have included the record for District i. in this statement.

First record : *Jacob*, 1836.

ARMORACIA, Fl. der Wett.

58. A. rusticana, Bab. Man. Horse Radish.

Alien ; always as a garden outcast ; or in spots where it was originally planted. Rather rare. June.

c. I. By a hedge-bank bounding a garden-plot, Antony ; waste spot, Tideford. Sparingly at both spots.

- II. Bank near Kingsand, sparingly. By the road between Millbrook and Southdown, in small quantity.
- d. III. Three patches in a bit of pasture land at Keyham, 1879. Bank near Manadon Wood. Side of a road below a house at Lophill.
- IV. Ditches of Plympton Castle ; *Fl. Dev.* 110. Field at the back of Lipson Mill ; *Keys, S. D. Lit. Chron.* 169. Between Leigham and Plymbridge ; *idem, Fl.* ii. 41. Oreston ; in two places by the quarries. In plenty in a small field close to Efford Mill, Egg Buckland.

First record : *Jones and Kingston*, 1829.

COCHLEARIA, L.

59. *C. officinalis*, L. *Scurvy Grass.*

Native ; by salt-water inlets and tidal rivers ; and on a hedge-bank. Very rare. April to July, or later.

- c. I. By Forder Lake below Trematon Castle ; very sparingly. 1878.
- II. Millbrook ; *Jones, Tour*, 15. Near Calstock ; *Jacob, Fl.* part ii. On the side of an elevated inland hedge-bank near the keeper's house above Vernico Down, near Pentillie, about two miles from the tidal Tamar ; in small quantity, but known there for several years past.
- d. III. Maristow ; *Gould. and H. in S. D. Lit. Chron.* 131 ; ! 1874. By Tamerton Lake, sparingly.
- IV. (The Hoe, Plymouth ; *Fl. Dev.* 109.) The Hoe plant was probably *C. danica*.

By Forder Lake in 1876, I collected a plant which looked intermediate between *C. officinalis* and *C. danica*. For some account of it see *Bot. Ex. Club. Rep.* 1876, 9.

60. *C. danica*, L. *Hastate-leaved Scurvy Grass.*

Native ; on banks, rocks and walls ; and on the mud by tidal waters. Common, but with a decidedly local distribution, from its partiality for spots not very far from salt water. March to May ; here and there later.

- c. I. On the coast ; and in the neighbourhood of the inlets from the tidal Notter, as at Wackar Mill, Tideford, Polbathick, &c.
- II. Common in the country around the branches of the Tamar, and following it to Halton Quay and Cotehele.
- d. III. Common in the neighbourhood of Devonport ; *Jacob, Fl.* part ii. ! On the eastern boundary wall of the grounds of the Royal Naval Hospital, Stonehouse. In plenty in many spots from one to two miles from the tidal waters of the Tamar and Tavy, ascending

to elevated spots, as at Beer Alston. Bank by the Plymouth and Tavistock road, between Powisland and the George Hotel, rather sparingly, 1874.

IV. About Plimouth *John. Ger.* 271 (quoting Lobel). Wall, North Street, Plymouth; Tothill Lane, and elsewhere in, or about, the town. Abundant about the Plym estuary, ascending to Staddiscombe. Wall in the town of Plympton Maurice and near the railway station. Sparingly on a wall on the north side of Vinstone Nursery grounds. At the head of Manadon Hill.

V. Newton Ferrers. Knighton and Langdon. On slaty refuse above Coffleet Lake.

VI. On the coast by Bigbury Bay, below Kingston. By the tidal Erme near Efford, &c.

A sub-maritime rather than a maritime or littoral species.

The petals are commonly white, but sometimes more or less purple-tinted, especially in starved examples. Before Midsummer the plant is often quite withered, and a month later young ones may be seen springing up thickly around its dead stems. These attain considerable size before winter, begin to flower in the early spring, and by April have such a number of blossoms expanded as to whiten some of the old hedge-banks and walls around Plymouth.

First record : *Johnson*, 1633.

61. *C. anglica*, L. *Long-leaved Scurvy-Grass.*

Native ; in salt-marshes and muddy spots by tidal waters. Locally common. April to June.

- c. I. By Forder Lake below Trematon Castle. By Sconner Lake near Polscro. By the Notter near Trevolland. Tideford.
- II. By the Tamar at Halton.
- d. III. Near Maristow !; *Jacob*, *Fl.* part ii. Keyham, near Devonport, at the head of the creek; *Keys*, *S. D. Lit. Chron.*, 169, and *Fl.* ii. 41. Western side of Weston Mill Lake. Kinterbury Creek. Budshead. Tamerton Foliot. Blaxton. Near Holes Hole.

There is no record of this from Districts iv. v. and vi. The flowers emit a sweet, honey-like scent.

Certain specimens, collected at Maristow and elsewhere in the neighbourhood, present characters more or less intermediate between this and *C. officinalis*. I sent a series to the Bot. Ex. Club in 1875, with some remarks, which may be found in the Club Report for that year, followed by a long and interesting critical note from Dr. Boswell, in which he says : "There can be no question that Mr. Briggs's specimens connect *C. anglica* with *C. officinalis*, so much so that in several instances, looking

at the dried plant, I feel at a loss which name ought to be applied." (See *Bot. Ex. Club Rep.*, 1875, 8–10; also 1872–74, 9, 10.)

First record: *Jacob*, 1836.

DRABA, L.

62. D. *verna*, L. Common Whitlow-Grass.

On old walls, and on dry earthy and rocky banks. Common.

February to April: sometimes a few plants have open flowers in January, or even December.

- c. I. Forder, St. Stephens. Wall by the bridge at Hessenford.
- II. Torpoint! *Keys, Fl.* ii. 40. St. Johns. Millbrook. Weard. Calloget Green.
- d. III. Outlands. About King's Tamerton. Tamerton Foliot. Beer Ferrers.
[Tavistock road, opposite the end of Five Field Lane, Plymouth; *Keys, S. D. Lit. Chron.* 169, 1846.]
- IV. Woodside, and wall between Laira Terrace and Laira House, Plymouth. In abundance in spots about the Plym estuary. Staddiscombe. Plympton.
- V. Wembury. Brixton. Blackpool. Yealmpton.
- VI. Ermington.

b. brachycarpa.

- c. I. Denabole; on a wall by the turnpike road.
- II. Walls about Torpoint in profusion; a form with very long peduncles. Rocky bank near Antony village, by the road to Tregantle.
- d. III. Townsend and Hartley Hills near Plymouth. Wall by the Devonport and Tavistock Road at Pounds, and at Milehouse.
- IV. In plenty between Tothill and Laira; also between Plymouth and Crabtree. Plymstock. Elburton, and its neighbourhood.
- V. Between Fordbrook and Staddiscombe. Wall between Kitley Lodge and Yealmpton village.

A very variable species. One or more of the narrow-podded forms is in some places associated with *b. brachycarpa*. One of our earliest plants to flower, so that not unfrequently by the end of March it has ripened and shed some of its seeds. It is too much of a local species to go into the 'very common' category, although in profusion in certain parts of the country. Besides *brachycarpa* we have at least two well-marked forms.

Lunaria biennis, Moench. Occasionally subs spontaneous on banks, or in bushy spots about gardens.

ALYSSUM, L.**63. A. maritimum, L. Sweet Alyssum.**

Alien ; established in dry rocky spots, or on walls. Very rare. April to November.

d. III. Rocks at Devil's Point, "completely established ;" Sept., 1833 ; also "naturalized with Red Valerian and Parsley," July 28th, 1847. *Herb. Borrer.* On the shore below Longroom Point, Plymouth (Stonehouse), gathered two successive seasons, but hardly wild and not plentiful ; *W. A. Bromfield, MS. in N. Bot. Guide*, ii. 550. Still in the neighbourhood of Devil's Point, Stonehouse, to which locality both the above records have reference ; and growing near *Centranthus ruber* and *Petroselinum sativum* ; all apparently derived from a garden above the rocks. Sparingly on a wall and rocky bank by Townsend Hill, Plymouth, below a garden.

IV. Hoe, Plymouth ; *Keys, S. D. Lit. Chron.* 385 and *Fl.* Extinct ? Bovisand ; *Keys, Fl.* ii. 40. Wall, in Staddiscombe village, very sparingly, 1875. Four plants in a potato field near Hooe, with a single plant of *Briza maxima*, September, 1873.

First record : *Watson*, 1837.

CAMELINA, Crantz.**64. C. sativa, Crantz. Gold of Pleasure.**

Casual ; in cultivated fields, but probably only where sown with the crop. Very rare. July.

d. III. The var. *b. sylvestris* : Very sparingly in a field near Pennycross Church, growing with *Trifolium incarnatum*, 1871. One plant among oats near Woodlands, 1861.

IV. Many plants in a field of barley on Fursdon estate, Egg Buckland, July, 1860 ; *Phytol.* iv. N.S. 383.

First record : *Briggs*, 1860.

THALSPI, L.**65. T. arvense, L. Field Penny Cress.**

Colonist ; in arable land and on earthy banks. Rare and very local. April to September.

c. I. Near Stoketon ; *Jacob, Fl.* part 14. St. Stephens, near Saltash : *Hore, Keys, Fl.* ii. 42. Stoketon is in St. Stephens, in which parish, near Weard or Trevolland, I have seen this (but mostly as one or two plants only) at five different times, between the years 1868 and 1878.

II. Three or four weak specimens on a bank at Combe near Saltash, 1871. One in a field of swedes at Trevol, 1879.

- d. III. Near Weston Mills; *Jacob*, *ibid.* Cultivated ground near St. Budeaux village; *Phyt.* v. N. S. 369. Seen subsequently on many occasions in the limited tract lying between Weston Mill, Honicknowle and St. Budeaux, on the east, and the tidal Tamar: as near St. Budeaux Parsonage, 1865, about 18 plants in same locality, 1871; hedge-bank and garden-plot, King's Tamerton, 1866; Ernesettle, 1869; Honicknowle, 1871; &c. Tamerton Foliot, one plant, 1874; in some quantity in a corn-field near the village, 1875. In plenty in a field close to Blaxton farm-house, 1867; a few plants on the side of a hedge-bank between Horsham and Blaxton, 1871.
- IV. A plant by the Plymstock Road near Pophlet, 1863; and very sparingly at another time in same neighbourhood. One on a bank below Crabtree Fort near Efford, 1872; two in a field below Efford Manor House, 1873. A plant on the border of a field of mangold wurzel near Derriford Lodge, 1876.

Somewhat sub-maritime in character, for all the stations, with the exception of the last, are within a mile and half of tidal waters.

First record: *Jacob*, 1836.

TEESDALIA, *R. Brown.*

66. T. nudicaulis, Br. Naked-stalked Teesdalia.

Native; on dry banks in open situations and on commons. Rather rare, but widely distributed. Part of April to June; sometimes later.

- c. I. Abundantly for a yard or two on a low hedge-bank between Seaton and Hessenford, about a mile from the coast. Rather sparingly on an exposed hedge-bank between Leigh and Pillaton village.
- II. Maker!; Rame! *Keys, Fl.*, ii. 42.
- d. III. Near Blaxton, by the roads thence to Maristow and to Horrabridge. Between Tamerton Foliot and Postham. In a stony spot by the Walkham, just above Double Water. Near Sampford Spiney.
- IV. Near Shaugh Bridge; lane leading up to Sheepstor from the village; *Keys, S. D. Lit. Chron.* 169, and *Fl.* ii. 42. Rumple, Plym Valley. In sandy spots by the Mew between Meavy and Hoo Meavy. On banks near Cadover Bridge, and near Rithypit, Dartmoor. Banks about Wigvor Down.
- V. Wembury, in furzy ground above Yealm Ferry.
- VI. In a rocky uncultivated spot on the west side of the vale below Okinbury Farm, near Kingston, quarter mile from the coast, 1876.

Partial to granitic tracts and the neighbourhood of the coast. Occasionally plants may be found flowering in the autumn.

First record : *Keys*, 1846.

CAPSELLA, Moench in DC.

67. Bursa-pastoris, DC. Shepherd's Purse.

Native ; by roadsides, in waste spots and fields. Very common. February to November. Area general.

One of our most abundant weeds, found by roadsides in, or close to, the town ; on the Hoe, Mutley Plain, &c.

LEPIDIUM, L.

68. L. ruderale, L.

Casual ; on quays by tidal waters, and as a 'ballast plant.' Very rare.

- c. II. About a dozen plants on a quay by the tidal Tamar at Calstock, August, 1877.
- d. IV. In considerable quantity on a heap of ballast at Cattedown ; seeding abundantly, June, 1875. Between Oreston and Pomphlet, in two spots, on or by the quays by the quarries, in one place two or three dozen plants ; July, 1879.

A recent introduction that will perhaps become established, as in some other parts of the kingdom.

69. L. campestre, Br. Common Mithridate Pepperwort.

Native or Colonist ; in dry or stony waste spots, and as a weed in arable land. Rather common. May to July.

- c. I. Between Torpoint and Antony. In a waste spot by the junction of two lanes near Pillaton.
- II. Near Saltash ; *Keys, Fl. ii.* 43. Between Torpoint and St. Johns. Cargreen. Near Calstock.
- d. III. Tamerton Foliot! *Keys, ibid.* Near Pounds, in the road thence to Pennycross. Between Honicknowle and St. Budeaux. Blaxton. Between Beer Ferrers and Holes Hole.
- IV. Rubble heap near Laira Bridge, 1873, and previously. On limestone near Oreston, and near Radford. Billacombe. On slaty refuse, Cann Quarry. Between Thornbury and Poole, and Common Wood, Egg Buckland.
- V. Wheat-field between Knighton and Staddiscombe, one plant, 1875. Near Puslinch, in a field near a limestone quarry, 1871.
- VI. With sown grasses above Bigbury Bay, near Scotscombe, 1875 ; in same neighbourhood, 1876.

A widely-distributed, but by no means abundant plant.

70. *L. Smithii*, Hook. *Smooth Field Pepperwort.*

Native; on dry or rocky banks, and in waste spots. Common.
May to June.

- c. I. St. Stephens. Polbathick. Landrake. Pillaton. Quethiock.
 - II. Rame. St. Johns. Elbridge. Calstock. Between Penters Cross and Hatt; some plants showing fasciation of the stems, 1873.
 - d. III. Near Pennycomequick, Plymouth. Pennycross. Beer Ferrers. Between Horrabridge and Sampford Spiney.
 - IV. Between Lipson and Compton. Staddiscombe. Egg Buckland. Plympton St. Mary. Shaugh.
 - V. Wembury. Newton Ferrers. Near Elburton. Cornwood.
 - VI. Between Marwell and Kingston. Ermington. Ivybridge.
- Much commoner than *L. campestre*.

L. latifolium, L. By the side of the river near Catdown (Cattedown) quarries, probably brought in ballast. *Jacob, Fl.* part 14. No other record.

L. sativum, L. Much cultivated, and so occasionally seen about gardens.

L. Draba, L. Six or seven plants in a waste spot by the Walkham, a little above the Factory at Horrabridge, May, 1865. *Briggs in Jour. Bot.* iii. 349.

SENEBIERA, Pers.

71. *S. didyma*, Pers. *Lesser Wart Cress.*

Denizen or Native; by roadsides; and in waste spots, generally about towns and villages. Common; locally very so. April to November.

- c. I. Between Crafthole and Looe; *Jones, Tour*, 16. Waste spot by the road close to St. Germans Beacon. Landrake. Marsh, by Denabole Lake.
- II. Millbrook. Cargreen. Carkeel.
- d. III. St. Budeaux. Tamerton Foliot. Beer Ferrers and Holes Hole. Roborough village.
- IV. Shore at Plymouth. *H. W. sp. N. Bot. Guide*, i. 14. A perfect weed in Lockyer Street, Plymouth, and elsewhere about that town at the foot of walls and edges of the pavement. *W. A. Bromfield, MSS., ibid.* ii. 550. Regent Street and Hoe, Plymouth. Down Thomas. Elburton. Egg Buckland. Plympton.
- V. Noss Mayo. Knighton. Waste spot between Yealm Bridge and Flete. Lee Mill Bridge.
- VI. Kingston. Carsewell. Ivybridge.

Ascends to 480 feet at Roborough village. Dr. Bromfield says, in *Flora Vectensis*, "Petals wanting in my Isle of Wight specimens, as I remember

having remarked in those gathered by me in Devonshire, where Mr. Banks told me he could not find them." p. 48.

A peculiarity in the inflorescence of this plant forms the subject of a paper read before the British Association, in 1878, by Dr. A. Dickson. The peculiarity in the arrangement of the raceme was first noticed by him in the neighbourhood of Plymouth when in company with me the year previous. The paper will be found in *Jour. Bot.* vii. N.S. 317, 18.

First record : *Jones*, 1820.

72. S. Coronopus, Poir. Common Wart-Cress.

Native ; by roadsides and field-paths, and in waste spots. Common. Part of April to September.

- c. I. Downderry. Landrake. St. Stephens.
- II. Kingsand. Torpoint. Saltash. Cotehele.
- d. III. Foot of the wall of Naval Hospital opposite Clarence Place, Stonehouse. Devil's Point. Devonport Park. Roborough. Beer Ferrers.
- IV. In some quantity about the earthenware in the centre of Plymouth Market, 1877. Hoe, Plymouth. By the shore between Mount Batten and Jenny Cliff. Oreston. Plymstock. Egg Buckland.
- V. Brixton. Newton Ferrers. Lee Mill Bridge.
- VI. Ringmore, in sand on the coast. Carsewell. Ivybridge.

Perhaps this would have been as well placed if in the 'very common' class.

It shows a remarkable partiality for growing in spots where the surface has been rendered somewhat bare of other vegetation through the frequent passing of men or cattle over it, and is generally to be seen close to our towns and villages.

RESEDAEÆ.

RESEDA, L.

73. R. lutea, L. Wild Mignonette.

Denizen ; on banks and about limestone quarries. Very rare. Part of May to September.

- c. I. In two spots by the Torpoint and Liskeard turnpike road near Trerule, 1864 ; in two spots in same locality, but only a single plant at each, 1871 ; two by the roadside, 1876.
- d. III. One plant with *Trifolium incarnatum* near St. Budeaux, 1875 ; certainly introduced.
- IV. Catdown (Cattedown) quarries. ! *Miss Atkinson, Banks, Fl.* pt. vi. Introduced with ballast ; *Keys, Fl.* ii. 45. Seen there in 1874, and in many preceding years, on limestone rubble, but

only in one spot. [Under the Western Hoe, *Mr. C. Johns, Banks, ibid.*; ! one plant, June, 1860, not seen since. Some years ago one grew on a wall near Marsh Mill, and up to 1873 one or two might be seen in the vicinity of the mill, but the species appears to have since died out: probably in the first instance introduced with the siftings or refuse from corn, and continued by seed for a few years.]

First record: *Banks*, 1830.

74. R. Luteola, L. Wild Dyer's Weed.

Native; sometimes Colonist or Casual; on banks and in waste spots; sometimes among sown grasses and clover. Rather, but locally, common. June to September.

- c. I. Below Screasdon Fort. Seaton. Tideford. Pillaton.
- II. Near Torpoint! *Keys, Fl.* ii. 46. Millbrook. St. Johns. Between Penlee Point and Rame Head. Saltash and Callington road. Kingsmill.
- d. III. Stonehouse Hill, between Plymouth and Devonport; and near St. Michael's Church, &c., Stoke Damerel. King's Tamerton. Lophill. Beer Ferrers.
- IV. Plentiful; *Banks, Fl.* pt. vi. Wall-top, Hill Street, Plymouth. Cattedown; Mount Batten; and in many other places on the limestone between Plymouth and Elburton. Plympton St. Mary.
- V. Wembury. Near Bridgend.
- VI. Ivybridge; *Miss Harrison, Keys, ibid.*

First record: *Banks*, 1830.

R. suffruticulosa, L. Hooe, near Plymouth: G. Bartlett, 1844; *Keys, Fl.* A few plants on a bank by the railway below North Road, Plymouth, 1863; also seen on a wall at Stoke Damerel. Only as a casual derived from gardens, &c.

VIOLACEÆ.

VIOLA, L.

75. V. palustris, L. Marsh Violet.

Native; in moorland bogs, woodland swamps, peaty meadows, and by streams. Locally common. April, May.

- c. I. Wood between Treloy Farm and Seaton. Notter Valley. Pillaton Down. Viverdon Down.
- d. III. Manadon Wood; *Keys, S. D. Lit. Chron.* 169. Swampy spot near Woodlands Fort. Warleigh. Postham. Beer Ferrers, near the ferry to Calstock. Tavy Valley. Walkham Valley.

- IV. Bickleigh Vale ; *Jacob*, *Fl.* part 10. Common about the tributaries of the Plym in Egg Buckland parish and near Bickleigh. Ringmoor Down. Near Cadover Bridge. Found with white flowers below the viaduct at Common Wood, and by Mr. Keys (*Fl.* ii. 47) between Longbridge and Plymbridge.
- V. Swampy wood near Fardel and near Slade, Cornwood. Crownhill Down. Near Cholwichtown.
- VI. Ivybridge ; *Keys*, *Fl.* ii. 47. Hanger Down. Blackpool, below the Western Beacon, and Erme Valley, Dartmoor.

One of the most frequent species of the moorland bogs, delighting in a damp peaty soil ; yet occurring only slightly above the sea-level at Warleigh.

First record : *Jacob*, 1836.

76. V. odorata, L. Sweet Violet.

Native ; in several spots only Denizen. Rather rare, and remarkably local. February to part of April ; apetalous flowers on through the summer.

- c. I. Nottar (Notter) Bridge ; *Keys*, *Fl.* ii. 47 ; by a drain with houses on the opposite side of the road. ! 1874. Hedge-bank near Pillaton Mill. Roadside near Tilland slate quarry, very sparingly, not far from houses and still nearer an orchard, 1874.
- II. Lower Empacombe, Maker ; Grove, Millbrook ; *Johns*, *Keys*, *ibid.* ; seen near Millbrook at the side of a wall bounding an orchard. Trevol, sparingly ! *idem*.
- d. III. Between St. Budeaux and Tamerton ; *Keys*, *ibid.* Rather sparingly on hedge-banks between Ford Park, Plymouth, and Burleigh, also between Burleigh and Montpellier House, and near Pounds ; again between Weston Mills and King's Tamerton ; all, I believe, the var. *alba*. In plenty on a turf bank below Barn Copse on the western side of Weston Mills Lake. Bank above Tamerton Creek. The type *violacea* on a hedge-bank between Boxhill and Honicknowle : this I have also seen near Blaxton, with *alba*.
- IV. Near Pontey's Nursery, Tavistock Road ; *Keys*, *S. D. Lit. Chron.*, 169. Compton ; Laira Embankment ; Saltram ; and elsewhere about Plymouth ; *idem*, *Fl.* ii. 47. The plant at the first station is *violacea* ; it occurs also in Cattedown Lane, and in abundance in a lane and neighbouring field hedge-banks near Elburton : in one spot between Plympton and Plymstock. The commoner var. *alba* grows about Elburton, in considerable quantity ; also at Plymstock.
- V. In many places in the tract of country lying between Elburton, Brixton, and Plympton ; but *violacea* noted only between

Brixton and Plympton. About Yealmpton and Yealm Bridge; and between the latter place and Westlake. Fordbrook.

- VI. Between Battisborough Cross and Mothecombe. Hedge-bank between Gutsford Bridge and Orcherton. The type, *violacea*, on a bank near a house at Modbury.

Clearly a Native in Districts IV. and V., mostly on and around the limestone beds; probably also in III.; questionably in VI.; and only an Alien or Denizen in the two Cornwall Districts, I. and II. *Alba* is much more frequent than *violacea*.

77. V. permixta, Jord.

Native; on dry banks and in waste spots. Rare and very local. March, April.

- c. II. A very large patch on a bank between Penters Cross and Wheatlands. This seems *permixta*, but was out of flower when I found it in 1879, consequently some slight doubt attaches to the name.
- d. III. On a bank at Blaxton near *V. odorata* var. *violacea* and *V. hirta*; in considerable quantity on a hedge-bank by the lane leading thence into the Roborough and Tamerton Road; growing near *V. odorata* var. *alba*.
- IV. Sparingly in the lane bounding Saltram grounds, between the Underwood Lodge and the Stag Gate, and more plentifully by the road thence to Elburton, also by the cross lane by Hay Farmhouse into the Plymouth and Yealmpton Road; in small quantity by this latter road near the third milestone from Plymouth; as also between both Billacombe and Elburton and Plympton. In plenty on a hedge-bank by the lane to Elburton from the Plympton and Brixton Road.
- V. In two or three spots on a hedge-bank near Harestone, and by the Plympton and Brixton Road near that place.

This curious plant has been identified by M. Jordan himself with his *permixta* (*Bot. Ex. Club Rep.*, Thirsk, 1865, 5), but does not entirely agree with Boreau's description in *Flore du Centre de la France*, ii. 74, ed. 3, as it is there described as having stolons "non radicans," and in Plymouth examples roots are often developed, though to a less extent than by *V. odorata*. From specimens that I forwarded to Mr. Baker, he, in 1865, drew up the description contained in the Report of the Botanical Exchange Club referred to above.

The distribution of this plant in the neighbourhood of Plymouth somewhat favours the view of its being a hybrid between *V. odorata* and *V. hirta*. Its scentless flowers are of a bright slaty blue, and make a fine show at the end of March and early in April.

First record: *Baker*, in *Rep. Bot. Ex. Club, Thirsk*, 1864.

78. *V. hirta*, L. *Hairy Violet.*

Native ; on banks and in waste bushy and rocky spots. Common, but showing local tendencies. March, April.

- c. I. Between Latchbrook and Notter Bridge, and elsewhere in the parish of St. Stephens. Between Crafthole and Looe. Between Polbathick and Hessenford. Near Sheviock. Pillaton.
- II. Near Torpoint in a brake, adjoining Trevol ; *Keys, S. D. Lit. Chron.* 182. Below Tregantle Fort, close to the coast. St. Johns. About Botus Fleming. Landulph. Between Etheric and Cotehele. Penlee Point, where also a white-flowered variety grows ! ; *Keys, Fl. ii.* 49.
- d. III. Pennycross, and about King's Tamerton. Warleigh, and elsewhere in the parish of Tamerton Foliot. Beer Ferrers, in plenty.
- IV. Under the Citadel, Plymouth ; Mount Batten, &c. ; *Keys. Fl. ib.* Cattedown. Common on the limestone between the Plym estuary and Elburton. Fursdon, and elsewhere in the parish of Egg Buckland. Cann Wood. Elfordleigh.
- V. Wembury. Revelstoke. Newton Ferrers. Between Dunstone and Holbeton. Between Yeo and Stretchley. Plentiful in lanes between Plympton and Brixton, and about Yealmpton.
- VI. Carsewell. Mothecombe. Efford.

This violet seems to shun the cold and elevated granitic tracts.

79. *V. sylvatica*, Fries. *Dog Violet.*

Native.

a. *Riviniana*, Reich.

On hedge-banks, in and about woods, and sometimes on commons. Very common. March to May.

Area general. I have found a slight variety with flowers of a claret colour in Districts i. iv. and v., but only singly in each ; in District ii., however, I some years ago met with more than a dozen plants, growing near together by the Saltash and Callington Road at Hatt. At Common Wood, in District iv., I have seen a few plants with light lilac flowers.

Viola Riviniana is our commonest violet. It is often very small on the commons ; but its mode of growth and the colour of the spur serve to distinguish it from the forms of *V. canina*, L.

b. *Reichenbachiana*, Bor.

On the banks of hollow lanes, and in other shady and wooded spots. Local. March to part of May.

- c. II. Lane between Millbrook and Whitsand Bay. Very sparingly at Moditonham ; also by a lane near Carkeel. Cotehele, in fair quantity on a woodland bank between the Quay and Cleave.

- d. III. Between Weston Mills and Honicknowle. Abundant in Drunkard's Lane, Tamerton Foliot ; occurring also between Tamerton and Budshead, and sparingly in Warleigh Wood. Blaxton. At Lophill ; in the wood on the opposite bank of the Tavy ; and between Lophill and Milton. Lane between Buckland Monachorum and Denham Bridge.
- IV. Lipson. About Stoneybridge, and in Maidstone Wood, Egg Buckland. In plenty between Saltram and Underwood ; also in Larkham Lane, and between Plympton and Plymbridge.
- V. Between Plympton and Brixton, near the Sherford Farms. In plenty about Yealmpton.
- VI. On a warm open hedge-bank between Cadleigh and Ivybridge. On a hedge-bank at the eastern extremity of this District (possibly just beyond) between Ludbrook and Ugborough.

This seems to court shade. It sometimes puts forth a few flowers in February, commencing to bloom rather earlier than the other var. *Riviniana*. Intermediate forms occur. I have recorded some of the above stations in the *Journal of Botany*.

First record (for var. *Reichenbachiana*) : Briggs, 1865, in *Jour. Bot.* iii.

80. V. canina, L., inclusive of var. *b. flavidornis*, Sm. Dillenius's Dog Violet.

Native ; on commons, in old pasture land, and waste turf spots. Rather rare. April to June.

- c. I. In plenty in turf pastures on St. Germans Beacon ; growing in ground that appears to have been broken, but not recently, 1875. Viverdon Down.
- II. In a strip of waste furzy ground by the St. Dominick Road, above Vernico Down.
- d. III. Roborough Down. Hillside above the right bank of the Walkham near Sampford Spiney.
- IV. Bickleigh Down ! *Keys, Fl.* ii. 49. In a small waste furzy spot near Thornbury, and elsewhere by hedge-banks and in turf spots in that neighbourhood, where formerly was the open common of Egg Buckland Down. Waste spot near Fancy. In furzy ground near Cann Plantations. Pasture below Hemerdon Ball. On Crownhill Down, near Portivor.
- V. On a bit of open common by the Meavy and Cornwood Road, close to Dalamore.

Often very small. Our examples mostly *flavidornis*, Sm., rather than the typical form.

First record : *Keys*, 1866. ?

81. *V. lactea*, Sm., *V. canina*, L., *b. lactea*, Bab. Man. 41, ed. 7.
Smith's Dog Violet.
Native; on commons, and in waste heathy or turfy spots.
Locally common. May, June.
- c. I. Viverdon Down. Pillaton Down. Hammett Down, and in heathy ground between Hammett and Clapper Bridge. Cadsonbury.
- II. Abundant in a strip of waste furzy ground by the St. Dominick Road, above Vernico Down, growing with *V. canina*. Hingston Down, in plenty.
- d. III. Roborough Down! *Keys, Fl.* ii. 49; a plant with quite white flowers there in 1876. Plaster Down.
- IV. Abundant in a lane to the left of the road leading from the top of Castle Farm hill to Plymbridge; *Rev. W. S. Hore*; near Shaugh! *Jacob, Fl.* part 12. Bickleigh! *E. B.* ii. 22, ed. 3. Cann Wood; near Boringdon Mine, Plympton; *Keys, ibid.* Waste spots near Thornbury and Fancy, with *V. canina*. Hemerdon. Wigford Down.
- V. Crownhill Down, near the Cornwood and Meavy Road.
- VI. Very sparingly on the open moor or common near Pithill Farmhouse, Ivybridge, at about 600 feet.

b. intermedia, Wats.

- c. II. With *V. canina* and the type in heathy ground above Vernico Down.
- d. IV. In turfy or furzy spots about hedge-banks, where formerly was the open common of Egg Buckland Down. In a waste spot near Fancy, with the type and *canina*. In a rough, uncultivated piece of ground in a field by Roborough Down, near Leeford.

Viola lactea ascends to just over 700 feet on Hingston Down, and to 650 on that of Roborough.

I am disposed to regard it as a variety of *canina*, L., since lanceolate-leaved plants seem connected with cordate by a series of forms. However, I express my opinion with some diffidence, as Mr. Watson seems rather to incline to the opposite view. I have never seen *lactea* with so short a spur as that given to the figure in *English Botany*, though I have very often found the flowers damaged by having had the point of the spur eaten away, or destroyed by some insect. The figure looks as if it had been drawn from a plant so injured.

It is by no means confined to damp spots, although sometimes found on sedgy mounds rising out of a bog on a common. It most frequently occurs in just such places as does *V. canina*. On Roborough Down I have seen it growing abundantly in dry spots that had had the furze burnt off them a year or two before.

First record: *Jacob*, 1836.

82. V. tricolor, L. Heartsease.

Colonist or Native ; in tillage fields, waste spots, and on hedge-banks. April to October.

The typical plant very rare.

- d. IV. In some quantity in a field at Common Wood, Egg Buckland, 1864. One plant in a potato-field near Hooe, 1873.
- VI. One in a barley-field near Modbury, 1878.

b. arvensis.

Very common. Area general.

A form with comparatively large yellow flowers, occurs in fields of sown clovers and fodder grasses. The type, *eu-tricolor*, E. B. ed. 3., seems to be no more than a casual.

DROSERACEÆ.

DROSERA, L.

83. D. rotundifolia, L. Round-leaved Sundew.

Native ; in spongy bogs, about springs, and in other damp spots in moory and heathy tracts. Locally common. July to September.

- c. I. Viverdon Down. Pillaton Down.
- II. In boggy ground in enclosed but unbroken land below Hingston Down, near Harrowbarrow.
- d. III. Roborough Down ! *Keys, Fl. ii. 50.* Near the Virtuous Lady Mine, and between that and Denham Bridge. Near Tamar House, Beer Ferrers. Plaster Down.
- IV. About Meavy, Bickleigh, and Shaugh ; *Banks, Fl.*, part 5. Dartmoor ! *Fl. Dev.* and *Keys, Fl.*; seen there near Cadover Bridge, at Sheepstor, near the Morley Clay Works, below Lethitor, &c. Bog on Derriford estate, Egg Buckland.
- V. Near Dalamore. Crownhill Down. Below Hanger Down.
- VI. Boggy ground about Ivybridge ; *Stew. Fl. Tor. 17.* Harford. Erme Valley, on Dartmoor.

First record : *Banks*, 1830.

84. D. intermedia, Hayne. Lesser Long-leaved Sundew.

Native ; in bogs and damp spots on commons and moors. Rather rare. Part of June to September.

- c. I. Bog on Viverdon Down, in plenty, 1873.
- II. In boggy ground below Hingston Down, near Harrowbarrow, sparingly, 1879.
- d. IV. In two bogs near the Lee Moor Clay Works, Dartmoor. Crownhill Down. Wigvor Down.

V. Tolchmoor; *Rav. Fl.* 10. By a tributary of the Yealm just above Dalamore. Cholwichtown.

VI. Bog near Pithill in the neighbourhood of Ivybridge. Hanger Down.

Mr. Banks gave this a place in his *Flora*, published in 1830, but recorded no special stations.

POLYGALACEÆ.

POLYGALA, L.

85. **P. vulgaris, L.** *Common Milkwort.*

Native; on dry open banks, in waste spots and old pastures. Very common. May to October.

- c. I. Downderry. Sheviock. Antony. Between Longlands and Earth, St. Stephens. Pillaton. Landrake (*oxyptera*; and *eu-vulgaris*, or a form between it and the former).
- II. Penlee Point; *Keys, Fl.* ii. 51. Between St. Mellion and Halton Quay.
- d. III. Plymouth and Saltash Road. Tamerton Foliot. Buckland Monachorum. Beer Ferrers.
- IV. Mount Batten. Pasture between Lipson and Compton village. Egg Buckland. Between Plymstock and Plympton.
- V. Between Lolesbury and Battisborough. Newton Ferrers (*oxyptera*). Old pasture land above the coast, Wembury. Near Elburton (*oxyptera*). Lutton.
- VI. Holbeton. By the Anchorist Rock. Kingston.

Var. depressa, Wender.

The common form on dry or barren moors and commons, and in other rough pasture lands.

- c. I. St. Germans Beacon. Viverdon Down. Cadsonbury.
- II. Sea-bank above Whitsand Bay. Heathy ground by the St. Dominick Road, above Vernico Down. Hingston Down.
- d. III. Woodlands. Roborough Down.
- IV. Waste spots near Thornbury, where was formerly Egg Buckland Down. Between Colebrook and Shaugh. Ringmoor Down.
- V. In a brake near Elburton. Crownhill Down.
- VI. In a dry furzy spot near Okinbury, Kingston, also between Okinbury and Ringmore. Dartmoor.

In the arrangement of the Milkwort forms I have followed Babington's *Manual of British Botany*, ed. 7, not *The London Catalogue*. The principal reason for my doing so is my having found it impossible to divide a number of the Plymouth examples between *eu-vulgaris* and

oxyptera; both of which are given the rank of species in the Catalogue. The commonest form of the hedge-banks seems to be one having the capsule broader, but shorter, than the wings, and so quite between *euvulgaris* and *oxyptera* in these features. The differences of *depressa* are such as to constitute it a variety rather than a species. This has generally blue or white flowers. In the other they are blue, white, light or dark purple.

CARYOPHYLLACEÆ.

DIANTHUS, L.

86. D. Armeria, L. Deptford Pink.

Native; on dry turf banks. Very rare. July, August.

- c. I. In plenty on a turf slope at Wivelscombe, occurring over several square yards of ground, 1878.
- d. III. Several dozen plants on a dry turf bank at King's Tamerton, 1878; seen also in 1879.

The recent discovery of this species at the above stations affords a proof of the length of time a rather inconspicuous plant may remain overlooked, even in a tract where there has been a considerable amount of botanical investigation.

First record: *Briggs*, 1880.

SAPONARIA, L.

87. S. officinalis, L. Soapwort.

Denizen or Alien; in waste spots, on banks about villages, &c.
Very rare. August to October.

- c. I. About Crafhole!; *Banks, Fl.* part 5. Pillaton, on a hedge-bank by a garden in the village, but with single flowers.
- II. Bushes near the iron-railing, Barnpool; *idem*.
- d. III. Behind Mount Tamar House! *id.* with double flowers here. Over several yards of a sandy mound just beyond the right bank of the Tavy, near Buckland Abbey, but on the opposite side of the river. With double flowers, and probably introduced originally by the Cistercian monks, although now looking much like a native species at the spot.
- IV. Hedge near Crabtree turnpike-gate! *Banks, ib.*: flowers double. Shaugh; *Keys, Fl.* ii. 52: here on the border of a garden.
- V. Sparingly on a hedge-bank close to an old house at Battisborough Cross.

First record: *Banks*, 1830.

SILENE, L.

88. *S. inflata*, Sm. *Bladder Campion*.

Native ; on banks, walls, and in dry pastures. Very common.

May to July, or later. Area general.

b. puberula, Jord.

Rather common.

c. I. Wheat-field near Burrell, St. Stephens, 1874.

II. Antony, near the village. Between Cawsand and Penlee Point.

Between Etheric and Cotehele Quay, growing near the type, 1874.

d. III. Hedge-bank, Ham ; growing with the type. Two plants, with one of the type, on a wall-top at Knackersknowle, 1876. Bank above Tamerton Creek near Warleigh Wood gate.

IV. Sandy field by the Plym, with the other form.

V. Between Ridgway and Ivybridge.

VI. Between Flete Western Lodge and Ermington. Near Ivybridge.

At many of the above stations only seen singly. The occurrence of this variety with the type in different situations would seem to go far to prove that its divergence does not depend on soil or place of growth.

I have known the Bladder Campion called 'Rattle Bags' in this neighbourhood, a name usually attached to the *Rhinanthus Crista-galli*.

89. *S. maritima*, Willd. *Sea Bladder Campion*.

Native ; on sea-cliffs, and in other rocky or dry spots in the neighbourhood of the sea, or by estuaries. Common. Part of April to September.

c. I. On the shore near Crafthole ! Jones, *Tour*, 16. Seaton ; one plant up the valley a mile from the coast, but showing an approach to *inflata*, 1874.II. Whitsand Bay !; Keys, *S. D. Lit. Chron.* 277, and *Fl.* ii. 53.
By Millbrook Lake, near Southdown.

d. III. Western side of Weston Mills Creek. Saltash Passage.

IV. Hoe, Plymouth ; Bovisand ; Keys, *ib.* Between Mount Batten and Jenny Cliff.

V. Wembury. Revelstoke.

VI. Mothecombe. On Kingston Rock, above the Erme estuary.

General on the coast. In an exposed nook on a wall by a bank, on the Devon side of the tidal Tamar, just opposite Saltash, I have known for ten years past a remarkable plant, most like this *Silene*, but by its many-flowered panicles, and not densely-matted barren stems, showing some resemblance to *S. inflata*. Concerning specimens of it Dr. Boswell remarked in *Rep. Bot. Ex. Club*, 1870, 9 : "almost identical in appearance with the form which ordinary *S. maritima* from Shoreham, Sussex,

assumed when transplanted to the garden of my former residence, in Adelaide Road, London, in which it grew in a shady situation. In Balmuto garden, however, the same species, transplanted from Seafield, Fife, has retained its normal appearance."

Silene maritima begins to flower a little earlier than *S. inflata*.

First record : Jones, 1820.

90. *S. anglica*, L. English Catchfly or Campion.

Colonist ; in sandy or peaty fields with corn, turnips, and other crops ; also in gravelly spots by roadsides. Rather rare. July to October.

- c. I. Fields near Polbathick. Waste spot close to Heskyn Mill, 1875.
Roadside between Derniford Farm and Cadsonbury, rather plentifully, 1874. Fields near Quethiock.
- II. Between Torpoint and St. Johns. One plant by a roadside at Kingsmill, 1873. In plenty among potatoes in a field below Hingston Down, 1879. .
- d. III. Field near Maristow House ; *Phyt.* iv. N. S. 383.
- IV. Cornfield, Shaugh, in plenty, 1861.
- VI. Banks of the Erme ; *Banker, Keys, Fl.* ii. 53. Near Caton in the valley of this river, 1865 ; elsewhere near Ivybridge, 1877, &c. Between Ivybridge and Harford, 1878.

Mostly in the cultivated fields of the wilder or semi-moorland tracts.

First record : Briggs, 1860.

91. *S. noctiflora*, L. Night-flowering Catchfly.

Casual, or Colonist ; in tillage fields, &c. Very rare. June to September.

- c. II. Five plants in a barley-field between Cremyll and Anderton, 1875.
- d. III. A few among oats in a field at Blaxton, 1868. Four on a heap of stony refuse by Tamerton Lake, 1873.
- IV. A single plant in a waste spot by the line of the Great Western Railway at Crabtree, 1877.
- V. About a dozen among mangold wurzel in a field between Goodamoor and Lutton, 1879.
- VI. Six or eight plants in a waste spot by the side of a road near Ivybridge.

First record : Briggs, 1880.

S. annulata, Thore. About 20 plants of this Continental species amongst *Trifolium incarnatum* at Prospect, Pennycross. Found by my brother in 1871.

LYCHNIS, L.

92. *L. vespertina*, Sibth. *White Campion.*

Colonist, probably; in fields of sown grasses and clovers, in tillage fields, on banks and in waste places near arable land. Common. May to September.

- c. I. Between Antony and Wackar Mill. Between Cutmere Bridge and Trerule Gate, &c., St. Germans. Near Pillaton.
- II. Kingsand. Rame. St. Johns. Between St. Mellion and Halton Quay.
- d. III. Close to the Guard House, Raglan Barracks, Devonport, 1872. St. Budeaux. Blaxton.
- IV. Oreston. Noticed with pinkish flowers at Turnchapel, Plymstock, and Common Wood; at the last place intermixed with plants with white ones.
- V. Between Staddiscombe and Knighton. Lambside. Near Bridgend.
- VI. Ivybridge; Mothecombe; *Keys, Fl. ii.* 54.

The variety with pinkish flowers is rather common.

93. *L. diurna*, Sibth. *Red Campion, the 'Robin's Flower.'*

Native; on hedgebanks, and in bushy and grassy spots about woods. Very common. April to June; scattered flowers later. Area general.

I have seen the variety with white flowers in Districts I. II. III. IV. and VI., generally as a single plant; however, in 1878 I found four male plants between Colebrook and Shaugh. (District IV.) Many years ago a plant with double flowers grew on a bank below the Dartmoor tramway, near Crabtree. I have noticed the anthers of this Campion filled with the fungoid growth called 'smut.'

In May and June this is one of the most conspicuous species on the hedge-banks of our old lanes, where its flowers form a beautiful contrast to those of the wild hyacinth. Plants not unfrequently occur with all the foliage of a sickly yellowish-green colour.

94. *L. Flos cuculi*, L. *Ragged Robin.*

Native; in damp meadows, by streams, about bogs and in swamps. Very common. June to August. Area general.

Found in the moorland swamps as well as over the damp portions of the enclosed country. A variety with white flowers in Seaton Valley (District I.), growing intermixed with the other; and in Fancy Vale. (District IV.)

95. *L. Githago*, Lam. *Corn Cockle.*

Colonist; in fields of corn and vetches, and sometimes in waste spots. Common. July to August.

- c. I. Between Seaton and Polbathick. Between Tideford and Cutmere.
Near Moditon Mill. St. Mellion.
- II. Between Torpoint and St. Johns. Antony. Saltash.
- d. III. Pennycross. Tamerton Foliot. Walkhampton.
- IV. Plymstock. Plympton St. Mary. Egg Buckland.
- V. Newton Ferrers. Revelstoke. Near Yealm Bridge.
- VI. Pamflete. Kingston. Near Penquit.

MŒNCHIA, Ehrh.

96. M. erecta, Sm. Upright Mœnchia.

Native; on commons, and in dry or sandy waste turf spots.
Rather rare and local. April, May.

- c. I. St. Germans Beacon, and between that and Port Wrinkle. In an elevated pasture, close to Pillaton village. Trevolland Green.
- II. Mount Edgcumbe Park; *Jacob, Fl.* part 18. Near Lugger's Cave, Whitsand Bay; Maker Heights; Penlee Point; *Keys, S. D. Lit. Chron.* 182, and *Fl. ii.* 58. Bank near Millbrook. Abundant in a turf waste spot at Wiggle, Rame.
- d. III. King's Tamerton, in plenty. Roborough Down, sparingly in one spot near the village; plants small.
- IV. Very plentiful on the cliffs near Bovisand and Wembury; *Jacob, ibid.*
- V. Above the coast near Netton, Revelstoke. Above the High Cliffs, Wembury.

Partial to the coast, and spots near tidal waters. At the Roborough station it grows at an elevation of from 580 to 600 feet.

First record: *Jacob*, 1837.

CERASTIUM, L.

97. C. tetrandrum, Curt. Dark Green Mouse-ear Chickweed.

Native; in sandy and shallow turf spots on the coast; also on walls near salt or tidal water. Locally common. March to June.

- c. I. Between Crafthole and Looe; *Jones, Tour*, 16. St. Germans Beacon. Port Wrinkle.
- II. Whitsand Bay! *Hore, Keys, Fl. ii.* 58. Wiggle, Rame.
- d. III. Wall of Devonport Dockyard between Mutton Cove and Fore Street. King's Tamerton. Sandbank, Warleigh. Walls, Beer Ferrers.
- IV. Wall by Millbay Road, Plymouth, a few plants, 1877; seen at other times on a wall near St. James's Schools, and formerly on one by Sutton Road. Cattedown. Oreston. Between Mount Batten and Jenny Cliff. Wall, Down Thomas.
- V. Above the coast at Wembury and Revelstoke.

VI. Sandbank, Mothecombe. Coast below Kingston, and very sparingly on a wall in that village.

A submaritime species.

First record : *Jones*, 1820.

98. C. semidecandrum, L. *Little Mouse-ear Chickweed.*

Native ; on coast-sands. Very rare. April, May.

c. I. Between Crafthole and Looe ; *Jones, Tour*, 16.

II. On sand blown up from the coast below Tregantle Fort, with *C. tетrandrum*, 1875.

d. VI. In abundance by the cove at Mothecombe, growing with *C. tетrandrum*.

I once found it as a ballast introduction with *Phleum arenarium* in District iv. Exclusively maritime in distribution.

First record : *Jones*, 1820.

99. C. glomeratum, Thuil. *Broad-leaved Mouse-ear Chickweed.*

Native ; on dry banks, wall-tops, in cultivated ground, and sometimes in damp meadows. Very common. April to October.

Area general.

A universally diffused species found from the coast to Dartmoor, and occurring close to the town of Plymouth, at Woodside, the Hoe, &c. Besides appearing as a weed in arable land it grows plentifully in very dry spots, such as the tops of walls and rocky banks, fully exposed to the sun. Sometimes it is associated with *C. triviale* ; but the two seem truly distinct from an absence of intermediate forms. *C. glomeratum* is sometimes biennial at least, notwithstanding that it is stated to be simply annual in some leading works. The form or state *apetalum* is common, and occurs in all the districts.

100. C. triviale, Link. *Narrow-leaved Mouse-ear Chickweed.*

Native ; on rocky banks, commons, wall-tops, in damp meadows and moorland swamps. Very common. April to November.

Area general.

One of our most generally diffused species, occurring in all kinds of situations throughout the area ; in St. Andrew's Churchyard, the Hoe, on walls, &c., in Plymouth ; on Ringmoor Down, Dartmoor ; in rich pasture land at Ford Park, Mutley ; in furzy ground between St. Mellion and St. Dominick ; swamp on Viverdon Down, &c. &c.

STELLARIA, L.

101. S. media, With. *Common Chickweed.*

Native ; on banks, by roadsides, and as a weed in cultivated ground. Very common. Flowers the greater part of the year.

Area general.

One of the commonest weeds.

b. Boræana.

- c. II. A form with apetalous flowers, seemingly this, on the sea-bank above Whitsand Bay, 1879.

d. umbrosa.

Common, occurring, I believe, in every district on hedge-banks, certainly in Districts I.-v. Middle of April to beginning of June.

I assign to *umbrosa* only a plant having the sepals and pedicels quite glabrous. Another form with large flowers has the sepals hairy over their whole outer surface, and pedicels with a conspicuous line of hairs. These, however, are the only differences between it and *umbrosa* that I have been able to discover. There seems to be some confusion as to the vars. *neglecta* and *umbrosa*; for whilst in *English Botany*, ed. 3, *umbrosa* is described as having 'pedicels almost glabrous,' in Boreau's *Flore du Centre de la France*, *neglecta* is said to have 'pédoncules ordinairement glabres ainsi que le calice.'

The typical plant sometimes occurs with *umbrosa* on hedge-banks. The difference as to the flowering period of the two is very marked. The seeds of the chickweed, as also sometimes those of *Cerastium glomeratum*, are occasionally quite destroyed by a fungus resembling the 'smut' of wheat, which will so fill the capsules as to give them a turgid appearance.

102. S. Holostea, L. Greater Stitchwort; 'Milkmaids.'

Native; on hedge-banks and in bushy places. Very common.
March to May, or part of June. Area general.

Abundantly diffused on the slate and granite, but not so on the limestone. By the road between Laira Bridge and Elburton, a distance of two miles over limestone, it occurs in only one or two spots, and not at all, so far as my observation has gone, between Laira Bridge and Plymstock. On the other hand, it grows on hedge-banks close to the town of Plymouth, and on Dartmoor, where I have seen it in the Erme valley.

A curious variety with foliaceous panicles occurs on a hedge-bank by the Plymouth and Tavistock Road, near Fancy. Dr. Boswell describes it as "a curious monstrosity, in which the flowers are replaced by series of sepal-like organs, arranged in alternate pairs one within the other." (*Bot. Ex. Club Rep.*, 1871, p. 13.)

103. S. graminea, L. Lesser Stitchwort.

Native; on grassy banks and open bushy spots. Very common.
June to September. Area general.

Occurs close to the town and on Dartmoor. The anthers are sometimes attacked by a parasitic fungus, which destroys the pollen when they are very small and enclosed within the sepals.

104. *S. uliginosa*, Murr. *Bog Stitchwort.*

Native ; by streams and about springs and swamps. Very common. May to September. Area general. A perennial species. First record : Jones, 1820.

S. aquatica, Scop. Near Ridgway : Miss Amezdroz, 1846 ; Keys, Fl. ii. 57. Statement unconfirmed.

S. glauca, With. In the neighbourhood of Plymouth ; Keys, Fl. ii. 57. No other record.

ARENARIA, L.105. *A. trinervis*, L. *Three-nerved Sandwort.*

Native ; on hedge-banks and in woods. Very common. March or April to June. Area general.

On hedge-banks close to the town, as Cemetery Road, Tothill, &c. ; as well as over all the enclosed country.

Sometimes mistaken for the Chickweed.

106. *A. serpyllifolia*, L. *Thyme-leaved Sandwort.*

Native ; on walls, banks, dry earthy or rocky spots, and tillage fields. Very common. May, June, and later in cultivated land.

a. sphærocarpa.

- c. I. Polbathick.
- II. Brakes east of Lugger's Cave, Whitsand Bay, May, 1876 (as *Lloydii*). Rev. A. Ley ; the same maritime form in sandy pasture land below Tregantle Fort. Carbeal and Trevol.
- d. III. Wall of Churchyard, and in Waterloo Street, Stoke Damerel, 1879. King's Tamerton. Tamerton Foliot.
- IV. Hoe, wall in North Street, by grounds of Beaumont House, &c., Plymouth. Turnchapel. Pasture land above Radford Quarry. Colwell, Egg Buckland. Plympton.
- V. Newton Ferrers. Bridgend.
- VI. The maritime form as in District II., on sand by Bigbury Bay below Ringmore. Mothecombe. Ermington.

b. leptoclados.

- c. I. Trevolland. Tideford. Sheviock.
- II. Between Penlee Point and Rame Head. Torpoint. Cargreen.
- d. III. Stoke Damerel. King's Tamerton. Tamerton Foliot.
- IV. Cattedown. Between Plymstock and Elburton. Crabtree. Plympton.
- V. Langdon. Calstone. Bridgend. Kitley.
- VI. Kingston. Modbury. Between Ermington and Ivybridge.

The typical *sphærocarpa* seems less plentiful than *b. leptoclados*. The maritime form from Districts II. and VI. is considered by Dr. Boswell to be var. *Lloydii*, E. B. ed. 3.

HONKENEYA, Ehrh.

107. H. peploides, Ehrh. *Sea Purslane.*

Native ; on sand or shingle by the coast. Rather common.
Part of April to June.

- c. I. Seaton.
 - II. Tregantle Sands ; Wear, near Millbrook ; *Keys, S. D. Lit. Chron.* 277, and *Fl. ii.* 55.
 - d. V. Shore near Wembury Church.
 - VI. By the Erme estuary at Mothecombe, Pamflete, and Saltercress.
- First record : *Keys*, 1846.

SAGINA, L.

108. S. maritima, Don. *Sea Pearlwort.*

Native ; in muddy, rocky, or turf waste spots by salt or brackish water. Very common. Part of April to September, or later.

- c. I. Marsh at the head of Denabole Lake. Port Wrinkle. By Forder Lake. Markwell.
- II. Mount Edgcumbe. Kingsmill.
- d. III. Sea coast in the neighbourhood of Devonport ; *Jacob, Fl.* part 18. Devil's Point. By Weston Mills Lake. By Tamerton Lake. Lophill.
- IV. By the Plym estuary at Cattedown, Crabtree, and Oreston.
- V. Wembury ! *Hore, Keys, Fl. ii.* 55. On slaty refuse by Coffleet Lake. On damp rocks by Bigbury Bay.
- VI. By the Erme, near Efford.

I have been unable to severally assign Plymouth examples to the vars. given in *E. B.* ed. 3.

First record : *Jacob*, 1837, also first for Devon.

109. S. apetala, L. *Common small-flowered Pearlwort.*

Native ; by foot-paths, on walls, and in other dry spots. Very common. May to November.

- c. I. Notter. Markwell. Tideford. Caracawn.
- II. Torpoint. St. Johns. Saltash. St. Dominick.
- d. III. Weston Mills. Blaxton.
- IV. South Devon Place, West Hoe, and elsewhere about Plymouth ; *Keys, Fl. ii.* 54. Portland Square, &c., Plymouth. Cattedown. Crabtree. Cann Quarry.
- V. Revelstoke. Newton Ferrers. Near Weston.
- VI. Carsewell. Ermington. Between Caton and Ivybridge.

Stations for this and the next, with reference to their relative distribution, will be found in *Jour. Bot.* iv. 287-88.

110. **S. ciliata**, Fries. *Fries's small-flowered Pearlwort.*

Native ; in sandy or dry waste spots, on turf banks and walls ; most plentiful near the coast. Common, though somewhat locally so. May to September.

- c. I. Port Wrinkle. St. Germans Beacon. Waste above the railway near Cutmere Bridge. Below Screasdon Fort. Trevolland. About Markwell. Pillaton.
- II. Above Whitsand Bay, and between Rame Head and Penlee Point. Maker, with *Lotus angustissimus*. Near Saltash and Botus Fleming. Merrifield. Calloget Green.
- d. III. Western side of Weston Mills Lake. Saltash Passage. Rocky bank near Burrington Farm, Pennycross. King's Tamerton. In several spots by the field-path from Blaxton towards Horrabridge.
- IV. Between Mount Batten and Jenny Cliff. Between Bovisand and Wembury. On slaty refuse at Rumple and Cann in the Plym Valley, with *S. apetala* and *S. subulata*. Near Thornbury. About Fancy. Waste spot near Collard. Between Chaddlewood and Combgate.
- V. Wembury, above the Yealm estuary. Revelstoke, and between that and Carsewell. Lambside. Near Bridgend, on a bank by the road to Puslinch.
- VI. Carsewell, and elsewhere near the Anchorist Rock.

When growing near or on the coast, often intermixed with some of the smaller trefoils and *Trigonella*. It ascends to 450 feet on St. Germans Beacon.

First record : *Briggs*, 1865 ; in *Jour. Bot.* iii. 349 ; also first for Devon and Cornwall.

111. **S. procumbens**, L. *Procumbent Pearlwort.*

Native ; about footpaths, on walls, by woodland paths, and on moors and commons. Very common. April to October. Area general.

Plentiful on walls in Plymouth, and to be seen about the pavement of the footways in some of the less-frequented streets. It also occurs in a variety of situations over the enclosed country and on the open Dartmoor commons.

Mr. Keys says, "A fleshy maritime form is *S. maritima*, Gren. It occurs between Torpoint and St. Johns." The specimens in *Herb. Ply. Inst.* seem true *maritima*, Don.

112. **S. subulata**, Wimm. *Awl-shaped Spurrey.*

Native ; on moors, commons, and in dry or sandy waste spots. Rather, though locally, common. May to September.

- c. I. St. Germans Beacon. Viverdon Down.
- II. In old pasture land and in the Military Road above Whitsand Bay. Waste piece of ground by the road to St. Dominick above Vernico Down.
- d. III. Roborough Down!; *Fl. Dev.* 79.
- IV. Near Shaugh Bridge!; *Keys, Fl.* ii. 55. On slaty refuse about Rumble and Cann Quarries, and on a sandy bank by the river a little above Plymbridge, in the Plym Valley, also by the Dartmoor tramway between Rock and Fancy, in the same neighbourhood. Bickleigh Down. Near Cadover Bridge and elsewhere on Dartmoor.
- V. Above the Yealm estuary at Wembury. Crownhill Down. Hanger Down.

First record: *Jones and Kingston*, 1829.

S. nodosa, Meyer. Near Ivybridge, *Banker*; *Keys, Fl.* Error. The specimen so labelled by Mr. Banker was one of *Spergula arvensis*.

SPERGULA, L.

113. *S. arvensis*, L. *Corn Spurrey*.

Native; in sandy spots on commons and by roadsides, and as a weed in peaty or sandy arable land. Very common. May to October. Area general.

Occurs just above the coast at Whitsand Bay, and on Dartmoor.

SPERGULARIA, Pers.

114. *S. rubra*, Frenzl. *Field Sandwort-Spurrey*.

Native; in sandy or gravelly spots on commons and by roadsides. Rather common. May to October.

- c. I. By the road close to St. Germans Beacon, together with a remarkable glandular-hairy variety. Trevolland. Waste spot near Notter farmhouse. Landrake. Pillaton.
- II. Maker. On a bank near Carkeel, by the road to Botus Fleming. Gunnislake.
- d. III. King's Tamerton. Near Powisland, by the Plymouth and Tavistock Road. Roborough Down.
- IV. Near Oreston quarries. Rumble, Plym Valley. Ringmoor Down.
- V. Above the coast near Lambside. Revelstoke.
- VI. Above Bigbury Bay near Kingston.

I have only given the stations where I have seen this myself, as I suspect some of those on record may really belong to *neglecta*.

115. *S. neglecta*, Syme, E. B. *Lesser Sea Sandwort-Spurrey*.

Native; on mud and in marshes by salt or brackish water. Very common. May to September.

- c. I. By the Notter near Wacker Mill (var. *genuina*). Near Antony Village. Marsh above Denabole Lake. Seaton. Tideford.
- II. Roadway by Millbrook Lake at Anderton (*b. salina* or *c. media*). About the tidal waters of the Tamar up to the neighbourhood of Calstock.
- d. III. About the muddy shores and creeks of the Tamar to Lophill.
- IV. A few plants under the Hoe, Plymouth, 1879. By the tidal waters of the Plym estuary at Oreston, Cattedown, Laira, &c.
- V. Newton Ferrers. By Coffleet Lake.
- VI. By the Erme estuary at Efford.

I have found it impossible to severally assign the specimens collected about Plymouth to the varieties given under this species in *E. B.* ed. 3.

116. *S. marginata*, Syme, *E. B.* Sea Sandwort-Spurrey.

Native ; in muddy and gravelly spots by tidal rivers and inlets of salt water. Common. May to September.

- c. I. By the Notter near Sheviock. By Polbathick Lake.
- II. By Millbrook Lake. St. Johns. Combe, near Saltash.
- d. III. By Stonehouse Mill Pond, on the Stoke side ; one plant, 1874. By Weston Mills and Kinterbury Creeks. Blaxton. Near Holes Hole.
- IV. By the tidal waters of the Plym near Oreston, Turnchapel, and Laira.
- V. Wembury ; *Keys, Fl.* ii. 156.
- VI. Marsh by the inlet from the Erme below Cling Mill, and by the river at Efford.

In the Reports of the Botanical Exchange Club for the years 1875 and 1876 there will be found some remarks on a form of this which I sent for distribution, and described as "a variety having the calyces and pedicels decidedly glandular-hairy." Since I wrote the notices of it I have found that it occurs elsewhere about Plymouth, and think it may prove to be the general form of the plant here.

117. *S. rupestris*, Lebel. Rock Sea Sandwort-Spurrey.

Native ; on the coast cliffs, and on rocks by salt-water inlets and tidal rivers. Very common. May to September.

- c. I. Port Wrinkle. Seaton. By the Notter at Wivelscombe.
- II. Near Cawsand ; *Keys, Fl.* ii. 155. Whitsand Bay. Near Wilcove. Near Saltash. The var. *glabrescens* on an earthy wall-top near Rame Head, 1877.
- d. III. By Weston Mills Lake. Kinterbury. Between Ernesettle and Saltash Passage. On low rocks by the Tavy at Beer Ferrers.
- IV. Staddon Cliffs ; *Keys, ibid.* Three or four plants in crevices of limestone rock below the Hoe, Plymouth, 1879. Between Mount Batten and Jenny Cliff.

V. Wembury. Newton Ferrers. Revelstoke. Near Winstone, Brixton.

VI. By Bigbury Bay, below Kingston, where also occurs var. *glabrescens*.

The variety I have ventured to regard as var. *glabrescens*, Lebel, is an almost glabrous form, having the glandular hairs so reduced as to make the plant seem quite glabrous at first sight, but careful examination will reveal short glandular hairs on the inflorescence. Brébisson in *Flore de la Normandie* says of *glabrescens*, "Cette forme à peu près glabre, excepte sur l'inflorescence, est signalée à Gatteville (Manche) comme très rare par M. le Dr. Lébel." (p. 57, ed. 4.)

First record: *Briggs*, 1865, in *Jour. Bot.* iii.

POLYCARPON, L.

118. P. tetraphyllum, L. *Four-leaved All-seed.*

Native; in dry and rocky spots and on a wall. Very rare. April to October, but not continuously.

c. 1. [About Periwinkle (? Port Wrinkle), *Mr. Dingle*; *Banks, Fl.* part 7.]

d. III. Abundant in a dry waste spot under a wall at King's Tamerton, 1866; *Jour. Bot.* iv. 289. Also on the wall, April, 1869. Young plants springing up abundantly around some old ones, September, 1874. Only about half-a-dozen plants at the old station, but a few in a new spot a gun-shot or two from it, 1879.

V. Newton Ferrers, sparingly in two spots in the village, immediately in front of the houses parallel with the creek, June, 1873; seen in one spot, 1875; still in front of one or two of the houses, and also under a wall, but sparingly in both places, July, 1878.

The little bank at King's Tamerton on which I discovered it growing in plenty in 1866, is now well-nigh covered with ranker vegetation, which seems to have nearly crowded out the small Polycarpon. From the peculiar situation it has chosen at Newton it has little in the way of vegetation to compete with there. I have searched in vain for it at Port Wrinkle; but the place is one suitable for it. At King's Tamerton it ascends to 270 feet.

ILLECEBRACEÆ.

SCLERANTHUS, L.

119. S. annuus, L. *Annual Knawell.*

Native; in sandy or dry waste places, and as a weed in poor arable land. Rare. May to September.

- c. I. Trevolland Green. In a waste spot at the junction of two roads, lying between the Saltash and Callington Road and that from Moditon Mill to Pillaton, 1866, 1870.
- d. III. Roborough Down, about the old mine workings, 1860; but not seen there for several years past.
- IV. Near Derriford, in an arable field, formerly part of Egg Buckland Down, 1861. In a waste spot near Collard by the road from Bickleigh Bridge to Plympton; seen at various times.

The rarity of this species is remarkable.

Corrigiola littoralis, L. Staddon Point; Dr. Moore, Fl. Dev. Erroneous record, doubtless.

PORTULACEÆ.

MONTIA, L.

120. M. fontana, L. Water Blinks.

Native; in and about pools, rills, and other watery places; also in old pasture land and waste turf or open mossy spots. Very common. April to September, or later. Area general.

- c. I. Near Notter Bridge. Sheviock. Between Pillaton and Clapper Bridge.
- II. In dry spots on the turf above Whitsand Bay.
- d. III. On a dry warm bank at King's Tamerton, associated with *Moenchia*, *Ornithopus*, &c. Roborough Down. Sampford Spiney.
- IV. Plym Valley. Bickleigh. Ringmoor Down.
- V. Old pasture land, Wembury. Crownhill Down. Hanger Down.
- VI. Motecombe; var. *b. rivularis*, or near it. Between Ivybridge and Harford. Dartmoor.

Very variable: when growing in or by water having stems several inches or a foot long: but when in dry turf spots only one or two inches.

HYPERICACEÆ.

HYPERICUM, L.

121. H. Androsænum, L. Tutsan, 'Titsan.'

Native; on hedge-banks, in hilly woods and other bushy places. Common, and widely distributed, but nowhere very abundant. Part of June, July.

- c. I. Cliff by the Notter between Antony and Wackar Mill. Sheviock; in plenty near the bottom of Trethill Lane. Seaton. Between Caracawn Cross and Hessenford, and elsewhere in the parish of St. Germans. Near Trevolland. Landrake. Pillaton.

- II. Lanes near Saltash ! *Dawson Turner* in *Bot. Guide*, i. 133.
 Cotehele ; *Jones, Tour*, 39. Tregantle. Botus Fleming.
 Landulph. Between Ashland and Harrowbarrow. St. Dominick. Between St. Mellion and Callington.
- d. III. Between Plymouth and Milehouse. Between Ford and Keyham Farm. Tamerton Foliot. Beer Ferrers. Buckland Monachorum. Between Roborough Down and Walkhampton.
- IV. Saltram ; *Keys, S. D. Lit. Chron.* 385, and *Fl.* Plympton ! *idem. Fl.* ii. 61. Between Pomphlet and Billacombe. Egg Buckland. Hoo Meavy.
- V. Brixton ! *Polwh. Hist. Devonsh.* i. 92. Newton Ferrers. Lambside, Creacombe, &c., Holbeton. Yealmpton. Cornwood. Cadleigh.
- VI. Modbury. Kingston. Ermington. Ivybridge.
 First record : *Polwhele*, 1797.
 This ascends to 500 feet between St. Mellion and Callington.

122. *H. calycinum*, L. Large-flowered St. John's Wort.

- Alien ; only where it has spread from cultivation, or been planted.
 Very rare. July to September.
- c. II. Mount Edgecombe ; so abundantly established as to give quite a feature to some portion of the grounds.
- d. III. Hedge-bank near a house, Weston Mills. Edge of a garden, King's Tamerton.
- IV. Rocky bank close to a house at Oreston, by the road to Plymstock. Strictly speaking, this should not have a place in the Plymouth list.

123. *H. perforatum*, L. Dotted-leaved St. John's Wort.

- Native ; on dry or rocky banks, and in open bushy places. Very common. July to September.
- c. I. St. Stephens. St. Germans. Pillaton.
- II. Between Torpoint and St. Johns ; Calstock ; *Keys, Fl.* ii. 62. Landulph. St. Dominick.
- d. III. Pennycross. Tamerton Foliot. Beer Ferrers. Buckland Monachorum. Between Saltash Passage and Ernesettle. (*H. lineolatum*, Jord.)
- IV. Wall-top, Hill Street, Plymouth ; also on that bounding the grounds of Beaumont House, Tothill ; elsewhere close to Plymouth. Cattedown. Mount Batten.
- V. Revelstoke. Newton Ferrers. Yealmpton.
- VI. Holbeton. Kingston.
- Very general on the warmer, dry hedge-banks of the enclosed tracts. I believe the form *lineolatum* will be found to be very general ; but it is one so slightly marked as hardly to deserve notice.

124. **H. dubium**, Leers. *Imperfoliate St. John's Wort.*

Native ; on the banks of rivers and streams ; and more rarely on hedge-banks. Very rare and local. July, August.

- c. I. Four or five plants on a hedge-bank between two marshes in the Notter Valley, a little below Clapper Bridge ; and six or seven between the mill-stream and the river, in the same neighbourhood, 1869.
- II. "Weir, Tamar, Cornwall sp. *Hore*," *Wats. in ep.* ; *Keys, Fl.* ii. 63. Several plants opposite Morwellham Quay, 1874. Four on the side of an elevated hedge-bank near Dupath, a mile from Callington, 1879.
- d. III. By the Tamar near Wheal Russell Mine ; three roots seen on the river-bank and one in a marsh.

In a list of Dartmoor plants drawn up by the late Dr. E. Moore, of Plymouth, and appended to Rowe's *Perambulation of Dartmoor*, the name of this Hypericum occurs. The list contains many erroneous statements, and probably one of the other species was mistaken by Dr. Moore for this.

125. **H. tetrapterum**, Fries. *Square-stalked St. John's Wort.*

Native ; by streams, ditches, and in other damp places. Very common. July to September.

- c. I. St. Stephens. Sconner. Tideford. Seaton Valley.
- II. Tregantle. Millbrook. Halton.
- d. III. Plymouth and Saltash Road. Honicknowle. Warleigh Wood.
- IV. Plympton ; *Keys, Fl.* ii. 61. General just around Plymouth. Saltram. Egg Buckland. Lovaton.
- V. Wembury. Revelstoke. Dunstone. Yealm Valley.
- VI. Kingston. Holbeton. Modbury. Pamflete.

Begins to flower a little later than *H. perforatum*, but earlier than *H. bœticum*.

126. **H. bœticum**, Boiss. *Waved-leaved St. John's Wort.*

Native ; about bogs in copses, in rushy or bushy swamps, by springs, and on the banks of streams. Rare and local, though widely scattered. July to September.

- c. I. In plenty in a swamp in a large wood above a tributary of the Seaton River, between Treloy farm-house and Seaton Sands. Rather plentiful in the Notter Valley near Clapper Bridge and between that and Pillaton Mill ; also occurring in considerable quantity in a damp marshy enclosure by a tributary of this river below Viverdon Down, and less plentifully between St. Mellion and Pillaton. Very sparingly about the Torpoint and Liskeard Turnpike road at Sconner.

- II. Very sparingly in a marshy piece of ground near St. Johns. In a swamp in a wood between Hatt and Kingsmill ; several plants, but weak from the shaded situation, 1870.
- d. III. Plentiful in some swampy spots, surrounded by coppice, in Warleigh Wood, Tamerton Foliot.
- IV. In the vale below Rock Brake, and about the source of a small tributary of the Plym in Turtles Wood, and in considerable quantity in damp spots at Common Wood ; all on the right bank of the Plym, in the parish of Egg Buckland. Sparingly in certain damp spots about streams on Coleridge, Derriford, and Fursdon estates, Egg Buckland.
- V. A single plant by the turnpike road near Lee Mill Bridge, August, 1866. Sparingly scattered about the sides of the tributary of the Yealm on the flats below Cholwichtown.
- VI. Ivybridge, in a bog, and on a bank very near the railway station. First recorded as a Plymouth species, and also as a British one, in the *Journal of Botany* for February, 1864 (vol. ii. 45, 46), and in a part of *English Botany*, ed. 3, published about the same time. The figure of the plant in both works was drawn from dried specimens collected in this neighbourhood and forwarded by me. Unfortunately, however, neither of the plates gives a really good representation of this beautiful *Hypericum*. Besides my notice of it in *Journal of Botany* just referred to, a valuable one by Professor Babington will be found at p. 97 of the same volume. In subsequent volumes I recorded some of its local stations. When a young botanist I mistook it for *dubium*, and it appears under this name in a "List of Uncommon Plymouth Plants," contributed to the *Phytologist* in 1861 (vol. v. N. S., 369). It comes into flower about the third week in July, a fortnight after *tetrapterum*. Its flowers are of a much brighter yellow than those of that plant. The two are sometimes found together. Both are subject to the attacks of the larva of a small insect, of the name of which I am ignorant, that frequently eats away so much of the foliage as to prevent the plants from producing flowers. The stations at Ivybridge are the most eastwardly known in Britain for *H. boeticum*, but to the west of our Plymouth area it becomes more general, and in the extreme south-west of Cornwall is an abundant plant ; which renders the fact of its having been so long either overlooked or confused with other species the more remarkable. At Derriford, Egg Buckland, it ascends to 300 feet.

127. *H. humifusum*, L. *Trailing St. John's Wort.*

Native ; on dry or stony banks, and on commons. Very common.
June to September.

- c. I. Sheviock. Between Seaton and Hessenford. St. Stephens.
Landrake. Pillaton. Newbridge.

- II. Near Cawsand; near Saltash; *Keys, Fl. ii.* 63. Antony. Between Harrowbarrow and Calstock.
 c. III. Ford Lane, Stoke Damerel. Woodlands. Beer Ferrers. Rotherborough Down. Buckland Monachorum. Walkhampton.
 IV. Bickleigh; *Keys, ibid.* Efford Lane. Between Bovisand and Wembury Point. Shaugh. Hoo Meavy.
 V. Revelstoke. Between Battisborough and Lolesbury. Elburton. Sparkwell. Cornwood.
 VI. Carsewell. Kingston. On Dartmoor, above Harford Bridge.

The earliest species to flower, and one of the most generally diffused, notwithstanding the partiality that it shows for arenaceous soils.

128. *H. linariifolium*, Vill. *Linaria-leaved St. John's Wort.*

Native; on dry banks. Very rare and local. June, July.

- d. III. Road to Maristow from Tamerton! *Gould. and Harper, S. D. Lit. Chron.*, 131. Found on July 16th, 1845. It occurs, but very sparingly, on two dry hedge-banks, at an elevation of rather over 280 feet. I noticed nine roots in 1871, and about half-a-dozen in 1875. Plentifully about the Morwell Rocks, River Tamar; *Gould.*; *Phyt. iii.* 643, 1849.

First record: *Goulding and Harper*, 1846; also for Britain, excluding the Channel Islands.

129. *H. pulchrum*, L. *Small Upright St. John's Wort.*

Native; on heaths, in open spots about woods and copses, and on hedge-banks. Very common. June to August. Area general.

Occurs not only on hedge-banks in the immediate neighbourhood of Plymouth, as near Lipson, between Mutley and Burleigh, &c., and thence over the enclosed country, but also on the open commons and in the wooded tracts; growing on limestone, slate, and granite. Begins to flower a little later than *H. humifusum*.

130. *H. hirsutum*, L. *Hairy St. John's Wort.*

Native; in wooded spots on limestone. Very rare and extremely local. July.

- d. V. On a wooded bank by the Yealm, near Kitley Cavern, and also in the wood between the cottage and Puslinch Lane, sparingly in both places.

First record: *Briggs*, 1868, in *Jour. Bot. vi.* 205.

131. *H. montanum*, L. *Mountain St. John's Wort.*

Native; in bushy places, waste open spots, and on banks, mostly on limestone. Rare and remarkably local. July, August.

- c. I. Three weak plants on a bank below a wood at Antony, very near the Ferry House, one with flowers, July, 1873.
- d. IV. Abundant on limestone by the Yealmpton Road, within a few miles of Plymouth ; Plymstock ; *Phyt.* v. N. S. 369. Cattdown Quarries !; Mount Batten !; *Hore*; *Keys, Fl.* ii. 64. It is general over the limestone tract that extends from the eastern shore of the Plym estuary to Elburton. On a slaty cutting by the roadside near the Goosewell Alms Houses, between Plymstock and Staddiscombe. Herdwick. A single plant on a bank below the Tavistock Railway, near Shaugh Bridge, with *Crepis biennis*, and an introduction there, June, 1868.
- V. Fordbrook, Brixton, in plenty by the road to Staddiscombe. Yealmpton, near the village.
- VI. Saltercress, Kingston, on hedge-banks by the lane leading down to the mouth of the Erme ; in considerable quantity, but extremely local, 1875.

132. *H. elodes*, L. *Marsh St. John's Wort.*

Native ; in bogs, moorland swamps, and watery places of the wilder tracts. Locally common. July, August.

- c. I. Viverdon Down. Pillaton Down. Between Pillaton Mill and Clapper Bridge, and near Newbridge, in the Notter Valley.
- d. III. In the valley of the Tavy, near Hatch Mill.
- IV. Shaugh ; Meavy ; *Keys, Fl.* ii. 64. Bog on Derriford estate, and at Common Wood, Egg Buckland.
- V. Bog in an enclosure below Hanger Down. Crownhill Down. Cornwood.
- VI. Dartmoor !; *Fl. Dev.* 128. In boggy places near Ivybridge ; *Stew. Fl. Torq.* 25. Hanger Down.

I have seen this at an elevation of nearly 900 feet on Dartmoor.

It is very remarkable that all the British species of the genus *Hypericum* should occur within the area.

H. hircinum, L. Alien : apparently subs spontaneous in one or two spots. Two bushes on a bank by the Plymouth and Totnes Road, opposite Flete western lodge. On a bank in a lane near Penquit, Ermington (District vi.). Also in three places on a hedge-bank very near an old house and garden at Pill, Saltash. (District ii.)

H. elatum, Ait. Occasionally found, sprung from the seed of cultivated bushes.

MALVACEÆ.

ALTHÆA, L.

- 133. A. officinalis, L.** *Marsh Mallow.*

Denizen or Alien ; in a waste spot near a tidal river. Very rare. July to September.

- d. III. West side of the cottage at Lophill, on the Tavy ! ; *Mr. Morris* ; *Banks, Fl.* part 7. Maristow ; *Hore* in *Phyt.* i. 163. Evidently an introduction, associated with *Chelidonium* and *Armoracia rusticana*. Lophill is close to Maristow, and the two records quoted belong to one and the same station. It occurs quite sparingly at present, but would seem to have grown here in plenty when Mr. Banks wrote, in 1830, since we read in his *Flora* that it "forms a most chastely-elegant border round the extensive marsh of the river Tavy ; its contrast with the reedy verdure of that inlet cannot fail to arrest the attention of those who visit the hospitable cottage of Lophill."

LAVATERA, L.

- 134. L. arborea, L.** *Tree Mallow.*

Native ? mostly only Denizen ; on cliffs by the coast, usually near gardens. Very rare, as a native. May, June.

- c. II. Three plants on a cliff above Whitsand Bay, 1862 ; two between Rame Church and Lugger's Cave, 1871.
- d. III. [Gunwharf ; *Miss Atkinson, Banks, Fl.* part 7.]
- IV. Plymouth ; *Fl. Dev.* 117. Near Prince Rock, Catdown ; *Mr. Johns, Banks, Fl.* part 7. Bovisand, doubtfully wild ; *Keys, Fl.* ii. 60.
- V. Banks of the Yealm ; *Julian, in Naturalist*, iii. 17 ; *Keys, Fl.* ii. 60. In plenty at the High Cliffs, Wembury ; *Mr. W. B. Waterfall* ! 1877.
- VI. On a cliff by the Erme below the gardens of the houses at the Preventive Station ; evidently derived from cultivation.

Occurs in several other places as an escape from gardens, and as regards the stations given above, there is a probability of its being indigenous only in Districts II. and V.

First record : *Jones and Kingston*, 1829.

MALVA, L.

- 135. M. moschata, L.** *Musk Mallow.*

Native ; on dry banks, and in dry or sandy pastures. Common. Part June to August.

- c. I. Between Landrake and Notter Bridge. Between Polbathick and Hessenford. Tideford. Pillaton.
 - II. Calstock ; *Keys, Fl.* ii. 59. Between St. Johns and Millbrook. Landulph.
 - d. III. Between Mutley and Burleigh. Tamerton Foliot. Beer Ferrers. Tavy Valley.
 - IV. Saltram ; *Keys, S. D. Lit. Chron.* 385, and *Fl.* Furze Hill Lane, between Plymouth and Lipson. Sandy pasture near Rumble Quarry, Fursdon, Coleridge, &c. ; Egg Buckland. Between Staddiscombe and Bovisand. Plympton St. Mary.
 - V. Between Battisborough and Lolesbury. Newton Ferrers. Blackpool, and elsewhere in Brixton parish. Plymouth and Ivybridge Road.
 - IV. Near Mothecombe. Modbury. Ivybridge.
- First record : *Keys*, 1846.

136. M. sylvestris, L. Common Mallow, 'Marsh Mallow,' 'Chucky Cheese.'

Native ; in waste spots, by roadsides, and on dry or rocky banks. Very common. June to September.

- c. I. St. Stephens. Landrake. Pillaton.
- II. Torpoint ; Calstock ; *Keys, Fl.* ii. 59. Between Tregantle and St. Winnow. Halton Quay.
- d. III. Mutley. Woodlands. Tamerton Foliot.
- IV. In the immediate vicinity of Plymouth, under the Citadel, West Hoe, &c. ; *Keys, ibid.* On the site for the new Guildhall, in the centre of the town of Plymouth, July, 1870. Cattedown. Egg Buckland.
- V. On a wall near Wembury Church, with white flowers, 1865. Revelstoke. Newton Ferrers. Brixton.
- VI. Mothecombe. Kingston.

Partial to warm spots near dwelling-houses. Often erroneously considered to be, and sometimes collected for medicinal use as, the Marsh Mallow, a plant from its great rarity unknown to our rustics. It is sometimes very thickly dotted with the *Puccinia malvacearum*. A local name among children, 'chucky cheese,' is given above, and clearly has a reference to the cheese-like shape of the fruit.

137. M. rotundifolia, L. Dwarf Mallow.

Native ; in waste spots under walls about villages or old houses. Rare. Part of May to September.

- c. I. St. Stephens, in the village near a station of *Chenopodium Bonus Henricus*, and by a neighbouring farm-house near the National Schools. Burraton Combe, in the same parish. Landrake, on

the outskirt of the village by the road to Tideford. Markwell, St. Erney.

- II. Under a wall at Saltash, a little above the railway station, near the chapel, 1879.
- D. III. Near Devil's Point, Stonehouse, 1860; *Phyt.* v. 369; not seen recently. Beer Ferrers village.
- IV. Plymstock! *Rev. R. A. Julian*; Catdown quarries, *Miss Harrison*, 1855; *Keys, Fl.* ii. 59! one plant, 1874. Under a wall by the road in front of Goosewell farm-house, Plymstock. Staddiscombe, under a wall close to the Manor House Inn, and in 1875 half a dozen plants on the site of the old earthwork close to Court Gates farm-house. Border of a corn-field at Beauden Cross, Egg Buckland, 1871; likely an introduction here with manure or farm-seeds.
- V. Yealmpton village, *Phyt.* v. 369: known to me here for about 20 years. Below a wall at Yeo, in the same parish. Newton Ferrers, sparingly, 1873.

It often occurs only sparingly, but is generally a persistent plant at its stations. It chooses very dry spots, mostly under walls close to houses.

M. borealis, Wallm. Alien or Casual. Some dozens of plants, growing rather thickly together on each side of the entrance to a small court, on one side of which are some styes, by the road leading from Antony village to Screasdon Fort. (District 1.) *Briggs in Jour. Bot.* 1874; seen again in 1875, and 1876, but it seems to have since died out; for I could find none at the place in 1879.

TILIACEÆ.

TILIA, L.

138. T. europæa, L. Common Lime.

Alien; in plantations, and more rarely in hedge-rows. Rather common, but growing only where originally planted. July.

Strictly speaking this should not have a place in the list. I have no evidence even of its springing up from seed anywhere in the area, as the Horse Chestnut, Common Laurel, and some other introduced trees and shrubs occasionally do. It occurs about Efford, Holbeton; in a hedge between Battisborough Cross and Mothecombe; in a hedge-row near Cadleigh; at the head of Manadon Hill, &c. Should trees of this species standing in a hedge-row be cut down the rootstocks will sprout, and so form hedge-row bushes.

LINACEÆ.

RADIOLA, *Gmel.*139. *R. millegrana*, *Sm.* *Flax Seed.*

Native ; in damp places, or spots where water occasionally settles, on commons. Rare. June to September.

- c. I. Viverdon Down, in a damp spot with *Centunculus*, 1869 ; seen also in 1873.
- II. Hingston Down in several spots, 1879.
- d. III. Roborough Down ; *Phyt. v. N.S.* 369.
- IV. Near Shaugh Bridge ; *Jacob, Fl.* part 18. Bickleigh Vale ; *Ravensh. Fl.* 17. In a low damp spot on Crownhill Down, near Newnham Park, with *Centunculus*, 1869 ; by the clayey sides of a stream used for clay-washing on this down, near the road leading to Bottle Hill Mine, in plenty, 1870, &c., at an elevation of about 520 feet. Wigvor Down.

From its small size and inconspicuous appearance likely to be overlooked ; it very probably occurs in Districts v. and vi., but is as yet not recorded for either. Ascends to 700 feet on Hingston Down.

First record : *Jacob*, 1837.

LINUM, *L.*140. *L. catharticum*, *L.* *Purging Flax.*

Native ; in dry fields, on open banks, and on commons. Very common. May to September. Area general.

A widely-diffused annual ; occurring not only on the dry limestone, as at Devil's Point, and in the warm pastures on the coast, but also on the cold exposed downs.

141. *L. angustifolium*, *Huds.* *Narrow-leaved Flax.*

Native ; on dry banks and in pastures, principally in the warmer tracts. Common. May to September.

- c. I. Between Port Wrinkle and St German's Beacon. Between Burraton and Notter Bridge. Tideford. Cutmere. Between Pillaton and St. Mellion.
- II. Near Trevol ; *Jacob, Fl.* part 8. Between Penlee Point and Rame Head. Botus Fleming. Saltash and Callington Road. Landulph.
- d. III. [Near the pathway from Plymouth to the Marine Barracks ; *Gough. Camd. i.* 67* ed. 2, 1806 (as *L. tenuifolium*).] St. Budeaux ; *Jacob, Fl.* part 8. Plymouth and Saltash Road. Tamerton Foliot. Beer Ferrers.

- IV. By the shore near Plymouth; *Mr. E. Forster, jun., Bot. Guide*, i. 200. Ramparts under the Citadel!; *Mr. Bellamy, Jacob, Fl.* part 8. Staddon Heights; *W. A. Bromfield, MSS. N. Bot. Guide*, ii. 550! 1873. Cattedown!; by the footpath in fields between Lipson and Compton!; Bickleigh; *Keys, Fl.* ii. 112. Mount Batten. Estover, &c., Egg Buckland. Near Chaddlewood.
- V. On the coast at Gurrows Down, Lambside, &c. Between Wembury and Plymstock. Near Bridgend. Between Fordbrook and Staddiscombe.
- VI. Kingston, and between that and Ringmore. By the lane to Efford from the Holbeton and Mothecombe Road. Between Ivybridge and Ermington.

Apparently absent from the cold granitic tracts, and much of the adjacent country.

First record: *Turner and Dillwyn*; 1805, on authority of *E. Forster, jun.*

142. L. usitatissimum, L. Common Flax.

Alien or Casual; by roadsides, and occasionally in arable land, through being sown with corn or other crops. Rather common. June to September.

- c. I. Some dozens of plants near a house at Burraton, St. Stephens, looking as if sprung from seed swept out at the garden gate, August, 1871. Several plants by the turnpike road at Polbathick village, July, 1873.
- II. One in a corn-field between Torpoint and St. Johns, July, 1871.
- d. III. Several close to St. Budeaux Parsonage, August, 1866. One in an oat-field, Whitleigh, June, 1870. Three by the roadside near Cann House, Tamerton Foliot, July, 1870. A plant with white flowers by a roadside at Stoke Damerel, July, 1867.
- IV. One near Crabtree, 1865. Three with *Trifolium pratense* in a field at Knackersknowle, August, 1865. Corn-field near Thornbury, 1865. Three plants by the roadside near Laira House, July, 1871. Springing up plentifully for a quarter of a mile by the footway on the turnpike road between Marsh Mills and Plympton St. Mary Church, July, 1874.
- V. A plant by the turnpike road near Brixton Village, August, 1873.

The occurrence of this seems entirely due either to its seeds being unintentionally sown with corn or other crops, or else to the economic uses of the seeds themselves, as 'Linseed,' causing them to become scattered about houses and by waysides, where they readily vegetate. I have never seen 'Flax' sown as a crop anywhere about Plymouth.

GERANIACEÆ.

GERANIUM, L.

143. *G. phænum*, L. *Dusky Crane's Bill.*

Alien ; established in one spot. Very rare. May, June.

- d. V. Plentifully established on a steep bank above a hollow lane close to Grace Aller farm-house, near the hamlet of Venton, between Lee Mill Bridge and Cornwood. It is associated with *Rubus Idæus*, *Ægopodium Podagraria*, and a *Hemerocallis*.

First record : *Briggs*, 1866 ; in *Jour. Bot.* iv., 288.

144. *G. pratense*, L. *Blue Meadow Crane's Bill.*

Alien ; only as 'an escape' from gardens, or where originally planted. Very rare. June, July, or later.

- d. IV. Thicket, Manadon Hill, most probably introduced ; *Keys, S. D. Lit. Chron.* 300, and *Fl.* ii. 66. Widey !, near Knackersknowle ; *idem.* in *Phyt.* iii. 1023. One and the same station, where it still grows sparingly.
- VI. A few plants in a waste spot, close to the entrance to the garden in front of Mothecombe House, growing with a patch or two of *Ornithogalum umbellatum*, 1874.

At Widey, by Manadon Hill, this occurs sparingly by a plantation of shrubs and forest trees, and is no more indigenous there than are the Laurels, Ilex Oaks, and other shrubs growing near it. Several herbaceous species were introduced into the grounds by a former possessor of the property. At the station in District vi. it has clearly come from the garden.

145. *G. pyrenaicum*, L. *Mountain Crane's Bill.*

Denizen ; on banks and in waste spots. Very rare. May to September.

- c. II. Well established and plentiful on and about some hedge-banks near an old farm-house at Combe, near Saltash.
- d. III. [A single plant, as a 'casual,' in a field of clover and grass at Manadon, July, 1875.]
- V. Roadside between the third and fourth mile from Plymouth, on the Yealmpton Road !, on slate ; pointed out to me last summer ; *Keys, Phyt.* iii. 1023. Near Yealmpton, plentiful, but, I suspect, not wild ; *idem. Fl.* ii. 66. The two records doubtless refer to one station. It still occurs in plenty on rocky banks, but is very local, and is associated with *Petroselinum sativum*, with which it has doubtless spread from some garden in the

neighbourhood. A plant with white flowers among the others here, May, 1860. On a wall bounding Coffleet (now Kitley) grounds on the west, and by the cart-road below, leading to Coffleet Mill ; between two and three dozen plants ; 1873.

First record : *Keys*, 1850.

* **G. striatum, L.** *Pencilled Geranium.*

Alien ; but quite established in a few spots. May to September, or later.

- c. II. Many plants on a bank, very near two old houses, at the hamlet of Lower Tregantle, with *Melissa officinalis*. On a bank below a garden, adjoining the churchyard of Botus Fleming, with *Anchusa sempervirens*. A few on a bank below a garden between Calstock and the Weir Head, 1879.
- d. III. Well established on a bank below a house and shrubbery in the lane between Whitleigh and Budshead ; also in the same lane below an orchard, close to an old farm-house, within a quarter of a mile nearer Whitleigh ; at the first-named spot associated with *Fæniculum*.
- IV. Woolwell Farm, near Plymouth, 1865 ; *Keys, Fl. ii.* 65. Sparingly on a hedge-bank, as an escape from a garden, in Plymstock village.
- V. On hedge-banks near cottages at Lynham ; in one of the spots in considerable quantity, 1875. In plenty by the road in front of a ruinous building at Wilberton, near Yealm Bridge, 1879. On a hedge-bank near a house at Cadleigh ; rather sparingly, 1874.

This has now really a better claim to be considered a Plymouth plant than has *Geranium pratense*.

First record : *Keys*, 1866.

146. G. molle, L. *Soft Crane's Bill.*

Native ; on dry banks, in waste spots, fields and pastures. Very common. April to October. Area general.

- c. I. The variety with purplish-white flowers with the type, between Crafthole and St. Germans Beacon.
- II. With white and with purplish flowers between Hatt and Penters Cross. With dull white and with purplish flowers on slaty refuse by a quarry near Trevol. The two at Wolsdon, near Antony.
- d. III. A few with pure white flowers, near a plant with dark purple, on a hedge-bank between Horsham and Blaxton, 1875.

* No number is attached, as this plant is one of the 'excluded species' both of the *London Catalogue* and *English Botany*, ed. 3.

- IV. Under the Citadel, where also a white-flowered variety grows; *Keys, Fl. ii.* 67. Hoe, Plymouth, with pinkish-white and with dark purple, 1873; with white near West Hoe Terrace, 1872. Near Laira, by the Dartmoor tramway, with white and with purple, also intermixed on a neighbouring wall-top. Both near Oreston quarries; again intermixed by a limestone quarry near Plymstock, 1871.
- V. With both white and with purple flowers near Gorlofen, Brixton. With white flowers by a slate quarry near Lynham. With whitish and with dark near Lambside.
- VI. With whitish and with purple flowers in sandy soil by the coast below Ringmore.

The commonest species of the genus, occurring plentifully over all the enclosed and cultivated country. The white-flowered plant is common, and the way in which it grows intermixed with the other seems to show very plainly that soil and situation have no connection with the white flowers. It will moreover be seen that both occur on slate, limestone, and sand.

147. *G. pusillum*, L. *Small-flowered Crane's Bill.*

Native; in dry waste spots, by roadsides; and sometimes in fields of fodder clovers and grasses, probably as an introduction. Rare. May to September.

- c. I. A plant on a bank near a farm-house, a quarter of a mile from the coast at Seaton, 1871; a small patch of plants a little nearer the coast, 1874. One or two in a barley arish at Notter, 1875.
- II. Two or three under a wall by a road near Wilcove, 1865; a single plant, 1872. In considerable quantity in a turf spot in front of a house at St. Johns, 1877.
- d. III. Many plants by the footpath at the head of Crown Hill, Knackersknowle, 1875; one was noticed on the opposite side of the road in July, 1866.
- IV. [In a pit in a bushy waste spot by the Plymouth and Plymstock Road, with *G. molle*, *G. dissectum*, *G. rotundifolium*, *G. lucidum*, *G. columbinum*, and *G. Robertianum*, June, 1866: destroyed in 1871 by the pit being filled up] By a limekiln at Pomphlet; also by a limestone quarry at the side of the road from Plymstock village to Hooe, June, 1860; about 10 or 12 plants at the latter station, 1871; not seen for several years past at the former. One plant under a wall by a farm-court at Plymstock, 1871. In a field of fodder grasses on Fursdon estate, Egg Buckland, July, 1866; probably sown with the crop. A single plant on masonry by a field gate from Coleridge Lane, near Knackersknowle, 1879.

V. About two dozen plants near an old limestone quarry in a path-field between Yealmpton village and Puslinch, 1871. In a stubble-field above the coast near Lambside, 1874 ; again a few plants in a grass-field in that neighbourhood, 1875. Several plants scattered about a grass-field between Bridgend and Rowden Farm, Revelstoke, 1875. One in a cabbage-field at Ford, near Lee Mill Bridge, 1877.

VI. With fodder grasses in a field between Carsewell and the Anchoret Rock ; but only one plant seen, May, 1874.

First record : *Briggs*, 1861, in *Phyt.* v. N.S. 369.

148. *G. rotundifolium*, L. *Round-leaved Crane's Bill.*

Native ; on dry or stony banks, walls, and earth-capped fences.

Locally common : extremely abundant in certain spots, but entirely absent from much of the country. Part of April to July, or later.

- c. I. Plentiful between Torpoint and Antony, from near the lodge by Antony House grounds to a little beyond the second milestone from Torpoint, and sparingly on a wall below Antony village by the Liskeard turnpike-road. In one place near Pentillie, between Penters Cross and Wheatlands.
- II. Cawsand, and sparingly between that and Cremyll, half-a-mile from the ferry. Plentiful about Wilcove and Merrifield. Bank at Weard, near Saltash. A few plants under a wall close to St. Winnow farm-house, St. Johns, 1875.
- d. III. From Pennycomequick to Milehouse ; *Keys*, *Fl.* ii. 67 ; still at Pennycomequick, in the wall by Roberts's garden grounds, &c. ; and between that and Stoke, 1880. On the road to Saltash beyond Milehouse, near the Devonport Workhouse, and sparingly near the third milestone from Plymouth. Richmond Walk, Devonport ; and rocks near Devil's Point, Stonehouse ; and still, or recently, on the limestone at Battery Hill. Near Pounds. Honicknowle ; and between that and St. Budeaux : in the latter locality between one and two dozen plants with white flowers intermixed with others on a wall, May, 1875 ; still a few with white flowers, 1879, proving this slight variety to have reproduced itself by seed for at least four generations. In two spots between Whitleigh Lodge and Cann House, Tamerton Foliot. About a wall at Blaxton Cross, by the path thence towards Horrabridge, and near Maristow, as you descend towards Lophill. Near Gnatham, near Holes Hole, and Beer Ferrers village, all in Beer parish.
- IV. Near Plymouth ; *Mr. E. Forster, jun., Bot. Guide*, i. 205. About Plymouth, frequent ; *Fl. Dev.* 116. Walls and banks

near Plymouth ; *N. Bot. Guide*, i. 16. Close to the town on the north and east, and thence in the former direction to Hartley, again appearing near Vinstone, and at Shalaford and Beauhaye, Egg Buckland. East of the town it is plentiful in many spots about the Plym estuary, and on the limestone beds, extending beyond them at Elburton. About Plympton ; by the turnpike road near the Church of St. Mary, on a hedge-bank in Colebrook village, at Chaddlewood, and between Plympton Maurice and Brixton.

- V. By the turnpike road between Elburton and Brixton ; also in plenty between Winstone and the tidal inlet at Kitley. By the lane to East Sherford from the Brixton and Plympton Road. A plant or two at Langdon, 1873. In considerable quantity on a wall by the creek at Bridgend, 1875.

Growing in the warmest and driest spots, but ascending to 300 feet by the Plymouth and Tavistock Road, near Vinstone. Absent from the granitic and semi-moorland portions of the area.

By the middle or end of July young plants sometimes appear, sprung from the seed of the year, and they by the succeeding winter become so large as to form a leafy rosette some inches across. This *Geranium* has not, I believe, any recorded Cornish stations west of those belonging to Districts i. and ii. It was added to the county list in *Jour. Bot.* iii. 349.

First record : *Turner and Dillwyn*, 1805.

149. *G. dissectum*, L. *Jagged-leaved Crane's Bill.*

Native ; on dry banks, in waste spots, and in pastures. Very common. Part of April to September. Area general.

Occurs in the immediate neighbourhood of the town, and over all the enclosed country. A white-flowered variety is rare : I found a few plants of it on a wall-top near Radford (District iv.), in June, 1869 ; and several, intermixed with others, by the Plymouth and Saltash Road near the cross lane to St. Budeaux (District iii.), in 1866, and some still there in 1871 ; the persistence of this slight variety at the latter spot proving that it comes true from seed.

After *G. molle*, this species or *Robertianum* is the commonest of the genus.

150. *G. columbinum*, L. *Long-stalked Crane's Bill.*

Native ; on dry banks, and in waste spots. Common. May to September.

- c. I. Between Burraton Lane and Latchbrook, and near Trevolland, St. Stephens. Seaton Valley. Tideford, Cutcrew, &c., St. Germans. Landrake. Pillaton.

- II. Calstock ; Saltash ; *Keys*, Fl. ii. 67. Between Penlee Point and Rame Head. St. Johns. Tinnel. Landulph.
- d. III. Between Mutley and Burleigh and by the old road to Saltash. St. Budeaux. Tamerton Foliot. Lophill. Beer Alston.
- IV. About Compton ; Lipson ; *Keys, S. D. Lit. Chron.* 300. Bickleigh, *idem.*, Fl. ii. 67. Mount Batten. Oreston. Radford. Egg Buckland. Plympton St. Mary.
- V. Wembury. Newton Ferrers. Revelstoke. Brixton. Between Ridgway and Ivybridge.
- VI. Between Kingston and Ringmore. Holbeton. Between Ivybridge and Ermington.

One of the most elegant and graceful of our wild plants.

First record : *Keys*, 1846.

151. G. lucidum, L. Shining Crane's Bill.

Native ; on hedge-banks, damp walls, and rocks. Common, though showing local tendencies. April to July, or later.

- c. I. Polscove, between Sheviock and Polbathick. Plentiful at Notter Bridge, also at Trehan, St. Stephens. Lane between the Moditon Mill and Pillaton road and the Saltash and Callington turnpike road.
- II. Near Torpoint ; *Rev. C. A. Johns, Pascoe in Bot. Gaz.* ii. 39. Still in plenty in that neighbourhood ; by the turnpike road to Antony, and just above the Ferry-house, in Hay Lane, at Wilcove, and Merrifield.
- d. III. Between Pennycomequick and Stoke Damerel, 1880. Abundant in Keyham Lane, Stoke ; also in plenty between Stoke and Manadon Wood. Between Mutley and Burleigh. Near Saltash Passage, and about King's Tamerton. Knackersknowle, and between that and Tamerton Foliot. Blaxton. Lane near Holes Hole.
- IV. Very common about Plymouth ; *Pascoe in Bot. Gaz.* ii. 39. Lipson. Compton Gifford. About Egg Buckland village, and at Shalaford, Bircham, and Common Wood in that parish. Crabtree. On limestone rubble at Turnchapel, and elsewhere in the limestone tract. Goosewell, Plymstock. About Plympton.
- V. Langdon, and near the Almshouses, Wembury. Noss Mayo. In abundance near Puslinch House, and occurring elsewhere about Yealmpton. Bridgend. Oundle, Cornwood.
- VI. Gutsford. Modbury. Ermington.

An elegant little plant, generally occurring in masses, and producing a charming effect from the varied tints of the leaves and bright colour of the petals. Many of the seeds spring up the same year they are borne

and by winter become plants of considerable size, as is the case with *G. rotundifolium*, and perhaps all the smaller species. This is one of the earliest to flower.

First record : *Pascoe*, 1850.

152. G. Robertianum, L. *Herb Robert; Wren's Flower.*

Native ; in waste shady spots, on walls, stony and rocky banks.

Very common. April to October. Area general.

Found in places close to the town, and also in wild wooded and rocky spots. A plant with pinkish-white flowers by the Saltash and Callington Road, near Botus Fleming, June, 1876 ; one seen on a previous occasion near Beer Ferrers. A variety with white flowers near Puslinch, 1874, and previously ; between Cornwood Station and village, 1879, as also many years before (see remark under *G. rotundifolium*). *G. Robertianum* begins to flower about the same time as *G. lucidum*.

c. purpureum.

Very rare.

- d. III. Growing abundantly from between stones against a bank at Holes Hole, by the tidal Tamar, June, 1871 ; for some gun-shots on banks and walls there, May, 1876.

At a distance this variety looks almost intermediate between typical *Robertianum* and *G. lucidum*, from its small flowers, vividly-coloured stems, and nearly glabrous condition. Its occurrence at Holes Hole I recorded in *Jour. Bot.* ix. 241.

ERODIUM, Hérit.

153. E. cicutarium, Hérit. *Common Stork's Bill.*

Native ; in waste sandy or dry turf-y places, on banks and earth-capped walls. Locally common ; found mostly about the coast, where it sometimes becomes an agrarian weed. April to October.

- c. I. On the cliffs near Crafthole ! ; *Jones, Tour*, 16. With white flowers between Crafthole and Port Wrinkle, 1871 ; between that place and St. Germans Beacon, 1875. Seaton.
 II. Whitsand Bay ! (fl. alb.) ; *Hore*; Penlee Point; *Keys, Fl.* ii. 68.
 d. III. [Five-fields Lane ; *Banks, Fl.* part 7.] Slaty banks by the Tamar at Saltash Passage, 1874, &c.
 IV. About Catdown ! ; *Banks, ibid.* On the Dartmoor tramway at Colwell and Fancy. In a gravelly spot close to Marsh Mills, two plants, 1865 ; some still there, 1871 ; but not seen very recently, and perhaps now extinct.
 V. Above the coast near Worsewell Farm-house, Revelstoke, mostly with white flowers.

- VI. By Meadowfoot Cove, Mothecombe, and about the Erme estuary at Pamflete, &c.; also above Bigbury Bay below Ringmore.

Very rare in inland situations. The station of ‘Five-fields Lane’ given by Banks was built over several years ago, and now forms a part of North Road, in the town of Plymouth.

First record : *Jones*, 1820.

154. E. moschatum, Sm. Musk Stork's Bill.

Native; on banks, earth-capped walls, in pastures and waste spots on the coast or near tidal waters. Rare. April to September.

- c. I. On the south-west side of St. Germans Beacon, at above 400 feet. By the Looe road a little west of Seaton. Down-derry.
- II. Plentiful about the Garrets, Millbrook!; *Banks, Fl.* part 7. Millbrook; *Herb. Borrer*, 1833. Whitsand Bay; *Hore*; near Cawsand, descending from Maker Heights!; *Keys, Fl.* ii. 68. Between Rame Head and Penlee Point. Wilcove, on top of a wall and by a footway below. Wall-top at Saltash, and in that neighbourhood at Combe and Weard. Tinnel, on a wall-top, &c.
- d. III. Blaxton, in a dry hilly pasture below the Horrabridge road. [Two plants by the Cemetery Road, near Osborne Villas, Stoke Damerel, 1863.]
- IV. Near Plymouth; *Mr. E. Forster, jun., Bot. Guide*, i. 205. Near the shore not far from the Garrison at Plymouth; *Gough, Camd.* i. 66*, ed. 2, 1806! 1880. Oreston Rock, near Gabber Gulley!; *Banks, Fl.* part 7.
- V. West Wembury; *Banks, ibid.* On the turf ridge capping the boundary wall of the grounds at Langdon Hall, opposite the lodge. Newton Ferrers, in the village.

There is no record for District vi. Unquestionably a native of both Devon and Cornwall, but yet a species liable to occur casually on ballast or refuse. A few flowers may sometimes be found on this plant so early as March: its flowering season begins earlier than is stated in some of our text-books.

I have never seen it in cultivation, although Banks, writing in 1830, says of it, “Much esteemed for its musk-like fragrance, and generally propagated with other garden annuals; nor indeed are any of the numerous and beautiful nosegays which deck our market stalls considered perfect without a branch of Muscovy or Pick-needle.” He gives these as two of its common names.

First record : *Turner and Dillwyn*, 1805.

155. *E. maritimum*, Sm. *Sea Stork's Bill.*

Native ; on cliffs, in waste rocky or turf-y places by the coast, and in bare or rocky spots about houses near salt water ; rarely in more inland situations. Rather rare. April to September.

- c. I. Between Crafthole and Looe ; *Jones, Tour*, 16 ; at Crafthole village, 1875. Port Wrinkle, and between that and St. Germans Beacon, at 400 feet. Seaton. Trevollard, St. Stephens.
- II. Cotehele ; *idem*, 39. Whitsands and Rame ! ; *Banks, Fl.* part 7. Mount Edgcumbe !; Penlee Point ; *Keys, Fl.* ii. 69.
- d. IV. Between Mount Batten and Jenny Cliff. On the coast opposite the Mewstone. Rocky bank in the village of Down Thomas.
- V. Revelstoke, on the sea-bank near Worsewell farm-house, and on a rocky bank by a farm-house between Revelstoke Church and Bridgend. On the coast between Down Thomas and the Yealm estuary. On rocky banks and on a wall in Elburton village, a low inland situation ; the tidal inlet of Coffleet Lake is, however, not far distant, being little more than a mile away, though shut off by an intervening ridge of slate rising to 200 feet ; 1876, and in previous years.
- VI. Ringmore, in rocky spots about houses in the village.

This, like *E. moschatum*, has a musky odour.

First record : *Jones*, 1820.

OXALIS, L.

156. *O. Acetosella*, L. *Wood Sorrel.*

Native : in woods, on woodland or shady hedge-banks, and in mossy spots about damp rocks. Very common. March to May.

- c. I. Sheviock. St. Germans. Landrake. Border of Viverdon Down.
- II. Moditonham. Antony. Between St. Mellion and Halton Quay.
- d. III. Manadon Wood ; *Keys, S. D. Lit. Chron.* 182, and *Fl.* Between Weston Mills and Honicknowle. Tamerton Foliot. Buckland Monachorum.
- IV. Radford Wood, and between Staddiscombe and Goosewell. Lin-ketty Lane, near Widey. Egg Buckland. Sheepstor.
- V. Puslinch. Between Yealm Bridge and Ermington. Gorlofen. Lee Mill Bridge. Near Cholwichtown.
- VI. Between Kingston and Ringmore. Flete. Ivybridge. Harford. Most plentiful in the wilder wooded and rocky tracts ; not general just around Plymouth, probably from the absence of wood.

157. *O. corniculata*, L. *Procumbent Yellow Wood Sorrel.*

Alien ; on a waste grassy bank and in a rocky spot. Very rare. August to October.

- c. I. Clings to little crevices on a rock near Pillaton ; *Jour. R. Inst. Corn.* iii. 51.

D. III. [Dockyard ; Mr. Keddell, *Banks*, *Fl.* part 1. No more recent record.] Among grass for a yard or two on a bank near gardens at King's Tamerton, where I have known it for the past fifteen years, but always in very small quantity. It grows near *Saponaria officinalis*, with double flowers, and one or two other garden outcasts.

First record : *Banks*, 1830.

ILICACEÆ.

ILEX, L.

158. I. Aquifolium, L. *The Holly*; ‘*Holm.*’

Native ; in woods, copses, and hedges, also in hollows and sheltered spots about rocks in the open moory parts of the country. Very common. May. Area general.

Some fine examples of this tree grow in Warleigh Wood (District III.); also in the vale below Crownhill Down, near Newnham Park (iv.); and in the woods in the Yealm vale between Lee Mill Bridge and Weston Mill (v.).

In Lyte's *Dodoen's Herbal*, the first edition of which was published in 1578, we read, “They use the small branches and leaves of holme to cleanse and sweepe chimneyes,” and the practice certainly continued in rural places around Plymouth until quite recently, and may still prevail in some parts of the country. A stout holly-stick, with the branches cut off at the length of 6 or 8 inches, is sometimes fixed by cottagers outside their houses to dry fish on.

CELASTRACEÆ.

EUONYMUS, L.

159. E. europæus, L. *Spindle Tree*; ‘*Skewer Wood.*’

Native ; in hedges, copses, and woods. Very common. May, June.

- c. I. Polbathick. Hessenford. St. Stephens. Landrake. Pillaton.
- II. Between Millbrook and Crafthole. Botus Fleming. St. Dominick.
- D. III. Warleigh Wood ; *Dr. Jacob*; Butshead Wood ; *Banks*, *Fl.* part 3. Milehouse, and between Pennycomequick and Stoke Damerel. Buckland Monachorum.
- IV. Furzehill Lane, and hedges elsewhere close to Plymouth. Between Pomphlet and Elburton. Newnham. Bickleigh.
- V. Wembury ; some fine bushes by the Yealm estuary. Kitley. Near Slade.

VI. Between Kingston and Ringmore. Between Battisborough and Carsewell.

About Plymouth the wood of this shrub is that most commonly employed for butchers' skewers. It is quite general in our hedge-rows, and its most beautifully-coloured fruit would be seen more frequently if the bushes were not so much sought out, and cut down for the purpose of skewer-making.

First record : *Banks*, 1830.

RHAMNACEÆ.

RHAMNUS, L.

160. R. Frangula, L. *Berry-bearing Alder.*

Native ; in swampy vales, copses, woods, and occasionally in hedges. Locally common. June to September ; at intervals.

c. I. Seaton Valley, and in its neighbourhood. Near Polbathick. Notter Valley, near Clapper Bridge and below Cadsonbury Hill. Vale below Viverdon Down.

II. Harewood near Calstock ! *Keys*, Fl. ii. 114. In plenty in a wood between Hatt and Kingsmill. Hedge at Penters Cross. Between Callington and Tavistock.

d. III. Warleigh Wood, Postham, &c. ; Tamerton Foliot. Budleigh Salterton. About Beer Alston.

IV. Frequent in the woods and copses of the Plym Valley. Derriford and Coleridge, Egg Buckland. Shaugh, ascending to 600 feet.

V. Near Lee Mill Bridge. Wood near Fardel. Between Fursdon and Slade.

VI. Dell at Ivybridge, most abundant ; *W. A. Bromfield, MSS.*, N. Bot. Guide, ii. 551. Between Ivybridge and Ermington. By the Erme estuary just below Efford, and near Cling Mill.

This shrub flowers at two or three different periods during the summer, so that it is no uncommon thing to see fruit in different stages of growth, open flowers, and unexpanded buds on the same branch.

First record : *Watson*, 1837.

R. catharticus, L. Brixton ; *Polwhele, Hist. Devonsh.* Error.

SAPINDACEÆ.

ACER, L.

161. A. Pseudo-platanus, L. *Sycamore.*

Alien, completely naturalized ; in hedges, plantations, and woods near houses. Common. April, May.

Occurs in all the districts, and is now so well established, through springing up readily from self-sown seed, that it would be considered a native tree, but for the historical evidence to the contrary. It looks as if it were indigenous on wooded banks above Sconner Lake (District I.), and in the Tavy valley (III.). A small tree of the variety with variegated leaves grew some years ago on a bank below the Dartmoor tramway, near Crabtree, but was destroyed about 1863, on the erection of Crabtree Fort. I have found the same variety growing on the side of a hedge-bank at Alderpit, Egg Buckland, where it must have come from seed. At Hessenford it occurs in a hedge, where it is likely to have been planted.

162. *A. campestre*, L. Common Maple.

Native ; in hedge-rows, and rarely in other bushy spots. Rather rare, and decidedly local. May.

- c. II. Maker ; *Keys, Fl.* ii. 65. On the edge of a low cliff in Mount Edgcumbe Park.
- d. III. Near Tamerton ! ; *ibid.* Several bushes on a cliff by the marshes enclosed from the Tamar at Ernesettle. Hedge-row near King's Tamerton, and at Pennycross. St. Budeaux. Between Lophill and Milton.
- IV. Near Plymstock ! ; *Mr. Sconce, Banks, Fl.* part 8. A bush in a hedge between the turnpike road and Lower Compton. Bickleigh Vale.
- V. In many hedges in this District ; about Battisborough, between Newton Ferrers and Holbeton, in plenty between Yealm Bridge and Flete, near Gnaton. Langdon. In a wood between Weston Mill and Lee Mill Bridge. Near Lynham.
- VI. Near Ernington ! ; *Keys, ibid.* In hedges between Kingston and Ringmore. Modbury. Near Ugborough. Between Ivybridge and Cornwood.

At some of the stations an introduction, but seems a native in Districts III., V., and VI. ; possibly also at Mount Edgecumbe (II.).

First record : *Banks*, 1830.

LEGUMINIFERÆ.

ULEX, L.

163. *U. europaeus*, L. Common Furze; 'Fuzz.'

Native ; on commons, in waste spots, copses, and on hedge-banks. Very common. November, January to June. Area general.

One of the universally-diffused species, growing apparently indifferently on limestone, slate, or granite. The frost of the severe winter of 1869

killed to the ground much of both this and *Ulex Gallii*, on Roborough Down. Polwhele observes, with reference to the entire county of Devon, "The furze on all our commons suffered very much by the severe winter of 1794-95, nearly three-fourths being killed." *Hist. Devonsh.* i. 92.

164. *U. Gallii*, *Planch.* *Planchon's Furze.*

Native ; on moors, commons, open or elevated hedge-banks, in copses and waste bushy spots. Common. July to November.

- c. I. Between Hessenford and the coast. Wacker Wood. Viverdon Down. Quethiock side of Clapper Bridge. Cadsonbury.
- II. Sea bank above Whitsand Bay. Penlee Point. Very sparingly in a marsh by St. Johns Lake. Calstock. Hingston Down.
- d. III. Keyham, sparingly ; *Banks, Fl.* part 7. On a rocky cutting, close to Weston Mills Creek, sparingly. Budleigh Salterton. Between Knackersknowle and Tamerton Foliot. Beer Ferrers. Morwell. Sampford Spiney.
- IV. Fancy Wood ; Bickleigh Vale ; *Banks, ibid.* Derriford, Coleridge, &c. ; Egg Buckland. Hemerdon Ball. Wigvor Down. Shaugh Hill. Dartmoor.
- V. Sparingly with *U. europaeus* above the Yealm estuary at Wembury ; also occurring near Mouthstone Point on the Revelstoke side. Near Stretchley. Crownhill Down.
- VI. Above the cliffs by the Erme estuary, and elsewhere above Bigbury Bay. Moors near Ivybridge.

I believe all the 'dwarf furze' of the neighbourhood to belong to the segregate species, *U. Gallii*. It is generally not discriminated from *U. europaeus* here, the two making up the 'fuzz' of our countryfolk, and together producing a succession of blossoms well-nigh through the whole year. This has given occasion for a jocular saying, "Love ez out o' vashun w'en fuzz ez out o' blozzum," which of course means never. (See *Bot. Gaz.* 1, 283, note.)

First record : *Banks*, 1830.

GENISTA. L.

165. *G. anglica*, *L.* *Needle Furze.*

Native ; in boggy ground. Very rare. May to July, or later.

- c. I. Rather sparingly in a boggy spot on Viverdon Down, 1878, &c. Very sparingly in a piece of rough, swampy ground in the Notter Valley, between Clapper Bridge and Pillaton Mill, 1869.

SAROTHAMNUS, *Wimm.*

166. *S. scoparius*, *Koch.* *Common Broom* ; 'Bazzam or Bizzom.'

Native ; in copses, on dry bushy or rocky banks, and on the borders of woods. Common. April, May.

- c. I. Hedges near St. Germans Beacon. Hessenford. Tideford. Trevallard. Near Hatt.
- II. Near Saltash ; *Keys, Fl.* ii. 116. Between St. Mellion and Halton Quay. Calstock.
- d. III. Near Weston Mills. Budshead Wood. Tamerton Foliot. Beer Ferrers. Sampford Spiney.
- IV. Woods of the Plym Valley. Bickleigh. Meavy.
- V. Harestone. Near Lee Mill Bridge.
- VI. Near Kingston. Ivybridge. Erme Valley, on Dartmoor, just above Harford.

In some of the extensively arable portions of the area not now of frequent occurrence, through the progress of cultivation.

Its use for besoms or brooms has led to the local name, ‘bazzam’ or ‘bizzom,’ and thence to the simile, “As yellow as bazzam ;” that is, as yellow as the flowers of the besom or broom plant. About Plymouth I have never heard the name ‘bazzam’ given to *Calluna vulgaris*, the heather, to which Mr. Pengelly, in a paper on “Verbal Provincialisms of S.W. Devonshire, says it “was applied primarily.” (*Trans. Devonsh. Assoc.* vii. 440.)

ONONIS, L.

- 167. O. arvensis, L.** *Procumbent Rest-harrow; ‘Cammick.’*

Native ; on dry banks, in pastures and waste turf spots. Common. July, August.

- c. I. Between Tregantle and Crafthole. Near Polbathick. Between Landrake and Tideford. Pillaton.
- II. Millbrook. Rame. Between Torpoint and St. Johns. St. Dominick.
- d. III. Devil’s Point. Stonehouse. Pennycross. Blaxton. Beer Ferrers.
- IV. Hoe ! and Cattedown ; *Keys, S. D. Lit. Chron.* 300, and *Fl.* ii. 117. Saltram. Turnchapel. Egg Buckland. Plympton St. Mary.
- V. Wembury. Yealmpton. Cornwood. Revelstoke ; a very glandular-hairy form noticed between Wadham Sands and Revelstoke Church, July, 1875.
- VI. Kingston. Mothecombe. Ivybridge. Near Harford.

O. spinosa, L. Wembury ; *Keys, Fl.* ii. 117. Error. The Wembury plant is the somewhat spinous form of *O. arvensis*.

ANTHYLLIS, L.

- 168. A. vulneraria, L.** *Common Kidney Vetch.*

Native ; on the coast cliffs, and on rocky banks, or in dry, waste places on a calcareous soil. Rather common, being general on the coast cliffs, though extremely local in inland situations. May to July, or later.

- c. I. On the shore near Crafthole ! *Jones, Tour*, 16.
- II. Whitsand Bay ! *Jacob, Fl.* part 2.
- d. III. Rather sparingly in a waste spot by the Tamar, near Holes Hole ; probably introduced.
- IV. Plentiful on the rocks near the sea in the neighbourhood of Plymouth ; *Jacob, ibid.* Rocks under the Hoe and Citadel ; Staddon cliffs and Bovisand ; *Keys, Fl.* ii. 125. Cattedown and Prince Rock. In many places on the limestone beds between Cattewater and Elburton, as in a waste spot by Radford Quarry, Mount Batten, near Turnchapel and Oreston, Billacombe, by a quarry at Wixenford, and on the rocky banks above the vale of Billacombe Brook.
- V. Coast at Revelstoke. About the workings of an old quarry near Elburton.
- VI. Mothecombe ; some with flowers of a light lemon colour ; the same in plenty on the coast below Kingston. By Bigbury Bay, with flowers of a light cream colour, turning subsequently reddish ; approaching var. *Dillenii*, Schultz.

First record : *Jones*, 1820.

MEDICAGO, L.

169. M. sativa, L. Common Lucerne.

Alien or Casual ; among sown fodder plants, or about the borders of fields. Rare. July to September.

- c. I. Sparingly in sand, close to the shore at Seaton, very decumbent in habit. September, 1873.
- d. III. Keyham, near Devonport ; *Keys*, in *Phytol.* iii. 1023. Specimen thence in *Herb. Easton*. On the edge of a field above the Plymouth and Saltash Road, near Weston Mills Lake, very sparingly, 1874, and for thirteen previous years. Railway bank near Pennycomequick, for ten years, 1874.
- IV. Hoe and Bovisand ; *Keys, Fl.* ii. 117. Field between Pomphlet and Plymstock, 1867. In two fields at Common Wood, Egg Buckland, probably sown with grass seeds, 1872. Pasture at Derriford, 1872. Many plants in a field between the Dartmoor tramway and Leigham Lodge, 1874.

170. M. lupulina, L. Black Medick.

Native ; in waste spots, on banks, and frequently sown in fields with other fodder plants. Very common. May to October. Area general.

Grows close to the town and over all the enclosed country.

171. M. denticulata, Willd. Reticulated Medick.

Native ; on banks and grassy slopes or cliffs near salt water. Rare. May to September.

- c. I. Seaton, on a low cliff. Plentiful in certain places on the cliffs immediately east of Port Wrinkle; also occurring on a bank behind the village.
- II. Near Maker Fort, associated with *Lotus hispidus*.
- d. III. Bank above the Tamar at Holes Hole, in plenty, 1876. A few plants by the roadside between the Plymouth and Saltash Road and Bull Point; probably introduced, 1879.
- IV. Hoe; unrecorded at Plymouth until discovered last season by a friend; *Keys, S. D. Lit. Chron.* ! 1880. [A few plants near Longbridge, 1868.]
- V. Rather sparingly between the Yealm Ferry and the village of Newton Ferrers, 1875.

There is no record for District vi. This plant is unquestionably indigenous on the sea cliffs.

First record: *Keys*, 1846.

172. M. maculata, Sibth. Spotted Medick.

Native; on banks and in waste grassy or turfey places. Common, though somewhat local. May to July, or later.

- c. I. Port Wrinkle and Seaton. Downderry.
- II. Kingsand. Rame. Wilcove. St. Stephens.
- d. III. Between Plymouth and Milehouse. Devil's Point, Stonehouse. Pennycross. Beer Ferrers.
- IV. Plymouth; *N. Bot. Guide* i. 16. Common in the immediate neighbourhood of the town, on the Hoe, Townsend Hill, Lipson, &c. Cattedown. Plymstock. Alderpit, Egg Buckland. Ridgway.
- V. Newton Ferrers. Between the Yealmpton Road and Puslinch Bridge.
- VI. Mothecombe. Ermington.

Absent from the colder tracts. The seeds spring up soon after falling, and form plants of considerable size before winter. When the flowers are touched the lobes of the keel expand and fall back on the calyx, thus liberating the enclosed pistil, which with its surrounding anthers springs up against the standard, and so the pollen is scattered.

First record: *Watson*, 1835.

MELILOTUS, Tournef.

173. M. officinalis, Willd. Common Melilot.

Native or Denizen; on limestone rubble heaps, in waste spots, and by roadsides, chiefly in a clayey soil. Rare and local. June to August, or later.

- c. I. In several places by the Torpoint and Liskeard turnpike road between Antony House Lodge and Polbathick; known here for the past sixteen years.

- II. Above Millbrook Lake, at Southdown, in considerable quantity, but probably an introduction, 1879.
- d. IV. Saltram embankment and Cattedown quarries ! *Keys, S. D. Lit. Chron.* 300, and *Fl. ii.* 118. On limestone rubble from the quarries at Oreston and Turnchapel. By the turnpike road and elsewhere at Laira.

First record : *Keys*, 1846.

174. M. alba, Lam. White Melilot.

- Casual. Very rare. July to September.
- c. I. Eight plants with clover and grasses in a strip of ground below the road from Downderry to Seaton, doubtless sown with the grass seeds, July, 1876.
- II. A plant cut with corn in a field near Borough farm-house, Antony, August, 1872. Three on a quay by the Tamar at Calstock, September, 1876.
- d. III. One in a field of fodder grasses and clover at Roborough, July, 1871.
- IV. Cattedown quarries ; *Harper, Keys, Fl. ii.* 118. (See *Fl.* page 119.) This is sweet-scented at night. Strictly speaking, not entitled to a place in the Plymouth list.

175. M. arvensis, Wallr. Field Melilot.

- Alien or Casual ; in fields of sown grasses and clovers, and occasionally in waste spots. Rare. June to September.
- c. I. Several plants in a field below Screasdon Fort, 1871. Two in a waste spot near Wackar Mill, 1872. Two in a field near Antony village, 1873.
- II. A plant by the road from Antony to Tregantle, 1873.
- d. III. One on a heap of rubble at Keyham, 1863. Noticed at different times, mostly singly, at Whitleigh, Knackersknowle, King's Tamerton, and Beer Ferrers.
- IV. A plant in a waste spot at Crabtree, 1866. Sent thence to *Bot. Ex. Club*, and recorded in the *Report* for 1866 as 'new to Devon.' (page 7.)
- V. In considerable quantity among grass and clover in a small field between Chittleburn farm-house and Brixton village, July, 1875. Many plants in a field at Wembury, 1876.
- A species likely to become permanently established. Flowers very sweetly scented.

It is remarkable that no species of melilot is mentioned in the *Flora Devoniensis*, published in 1829.

M. parviflora, Lam. Alien. Three patches, each of several plants, in the waste ground between West Hoe Terrace, Plymouth, and the quarries, 1875.

TRIGONELLA, L.

176. *T. ornithopodioides*, D.C. *Bird's Foot.*

Native ; in sandy, rocky, or dry, turf, waste spots from close to the coast to the distance of one or two miles from salt water. Rather common. May to September.

- c. I. On the coast at Port Wrinkle, and in a turf spot on the south-western side of St. Germans Beacon. By the Notter, below Screasdon Fort. In plenty on Trevolland Green.
- II. Torpoint ; *Hore, Phytol.* i. 163. Near St. Johns ! *idem, Keys, S. D. Lit. Chron.* 300. I have seen it by the 'Lake' between the village and Penhale, and at Penhale. Mount Edgecumbe Park ; Penlee Point ; Whitsand Bay ! *Keys, Fl.* ii. 123. Besides growing immediately above the Bay, I have found it between there and Millbrook, and close to Wiggle farm-house. Combe and Pill, near Saltash. Near Carkeel, by the road to Botus Fleming. By Millbrook Lake, at Weir. Calloget Green. Tinnel Green.
- d. III. Saltash Passage. King's Tamerton. By the Tavy at Beer Ferrers, and by an inlet from the Tamar between Beer Ferrers village and Holes Hole.
- IV. Cann Quarries ; *Miss Edmonds*, 1849 ; it was collected this year by *Mr. F. H. Goulding* ; *Keys, Phyt.* iii. 1024 ; ! seen on both the slaty mound and by a footpath thence to Plymbridge. Waste spot by Hey Brook, and in front of a quarry on the coast a little nearer Bovisand. Bank near Down Thomas. Crabtree.
- V. Wembury, by the field-path a little way from the Yealm Ferry, 1873 ; above the High Cliffs, 1879.

Partial to slaty banks near salt or brackish water, where the soil is not of sufficient depth to nourish species to any considerable extent larger than itself. It is generally associated with some of the smaller Trefoils, *Sagina ciliata*, *Cerastium tetrandrum*, *Ornithopus perpusillus*, &c. The seeds often vegetate in the autumn, and by winter produce plants of some size ; which is likewise the case with *Trifolium striatum*, *T. subterraneum*, and other of the smaller Trefoils.

First record : *Hore*, 1842.

TRIFOLIUM, L.

177. *T. subterraneum*, L. *Subterranean Trefoil.*

Native ; in sandy or dry waste turf, mostly on the coast or in the vicinity of tidal waters. Rather common. April to June.

- c. I. In profusion about St. Germans Beacon, studding the turf with

- its flowers. Seaton. Trevollard Green, and above the Notter in that neighbourhood; also by this river below Screasdon Fort.
- II. Whitsand Bay; *Keys, S. D. Lit. Chron.* 300; Maker Heights; *idem. Fl.* ii. 121. Occurs between the Bay and Millbrook and St. Johns. Penhale. Between Rame Head and Penlee Point. Mount Edgcumbe. Combe, near Saltash. Near Carkeel, by the road to Botus Fleming. Tinnel Green.
- d. III. Abundant on a turf bank at King's Tamerton. Bank in a pasture at Ernesettle.
- IV. West part of Catdown Quarries, in a field; *Hore*; Bovisand; *Keys, Fl.* ii. 121. In the neighbourhood of the coast between Down Thomas and Wembury. It may now be extinct at Cattdown.
- V. In pasture land above Wembury Cliffs. Near Lambside. Between Fordbrook and Staddiscombe. On a bank at Weston, by the road to Yealm Bridge, two miles from the nearest tidal water (Yealm estuary), 1879.
- VI. On a turf bank close to an elvan quarry near Torr, Kingston, at about 300 feet.
Ascends to 500 feet on St. Germans Beacon. The earliest of our Trefoils to flower. It is often associated with *Trigonella ornithopodioides*. First record: *Keys*, 1846.

178. *T. pratense*, L. Red Clover.

Native; in pastures, on banks, and in waste spots. Very common. May to September. Area general.

Much sown for fodder; but also frequent in a wild state. A variety with white flowers sometimes occurs among the sown plants. One, with dull dark purple ones, was found by my brother, Major Briggs, at Mount Batten in 1879.

179. *T. medium*, L. Zigzag Clover.

Native; on dry hedge-banks, and sometimes among short furze on commons. Rather common. June, July, or later.

- c. I. By the road close to St. Germans Beacon and near Narkurs. About Sheviock. Between Polbathick and Hessenford. Between Stoketon House and Notter Bridge. Pillaton.
- II. Between Millbrook and Crafthole! *Keys, S. D. Lit. Chron.* 300. St. Johns. Antony. Botus Fleming. St. Mellion. St. Dominick. Callington.
- d. III. Maristow; *Gould. and Harper, S. D. Lit. Chron.* 131. Southaway Lane and Blaxton, Tamerton Foliot. Beer Ferrers. Walkhampton. Sampford Spiney. Between Horrabridge and Tavistock.

- IV. About Bickleigh ; *Keys*, Fl. ii. 119. Between Billacombe and Elburton. Between Shalaford and Leigham (tram-road), Coleridge, and Common Wood, Egg Buckland. Derriford. Between Yannaton Down and Sheepstor.
- V. Near Lambside. Newton Ferrers. Fordbrook. Between Yealm Bridge and Flete. Yealmpton. Sparkwell, Venton, and elsewhere in Plympton St. Mary parish. Between Cornwood railway station and the village.
- VI. Common on hedge-banks about Holbeton. Ivybridge.

Although diffused over so great a portion of the area, never met with within a mile or two of the town of Plymouth. The calyces of this plant are sometimes of a beautiful and bright crimson.

First record : *Goulding and Harper*, 1846.

180. *Trifolium incarnatum*, L. Crimson Clover.

Casual or Alien ; a stray from cultivation, by roadsides and in waste spots. Rare. May to September.

- c. I. Many plants on a dry, rocky bank by the road between Burraton and Latchbrook, St. Stephens, 1873 ; still there, 1875 ; so perhaps established. A few in a dry, waste spot above the railway line between Cutmere Bridge and Trerule, 1875.
- II. Two or three plants by the road to Borough farm-house, Antony, 1872. Several in a waste spot at Halton Quay, 1874.
- d. III. Several plants by the Plymouth and Tavistock Road between Knackersknowle and the George Hotel, 1871.
- IV. A few by an old limestone quarry near Elburton, 1871. A small patch by Plymbridge Road, Egg Buckland, 1872.
- VI. Many plants on a sand-bank by the Erme, close to Pamflete Pond, 1874.

181. *T. arvense*, L. Hare's-foot Trefoil.

Native ; on cliffs by the coast, and in other dry spots near the sea, or about tidal waters. Rather rare. July to September.

- c. I. Cliff at Port Wrinkle. In considerable quantity on the side of the railway line, close to the head of Wivelscombe Lake, a tidal inlet from the Notter, 1878.
- II. Various parts of Whitsand Bay ; *Jacob*, Fl. part 10 ; seen here near Rame Church, and between that and Lugger's Cave, 1875.
- d. IV. Jenny Cliff ; Staddon Heights ; *Keys*, Fl. ii. 120. Drake's Island ; sp. in *Herb. Easton*. Cliff near Down Thomas.
- V. Wembury ; *Keys*, Fl. ii. 119 ; on an earth-capped wall by the road to the Yealm Ferry, 1875, &c. Above the coast at Gurrows Down and Wadham, Revelstoke. On slaty refuse on the western side of the tidal Coffleet Lake.

VI. One plant, probably as a 'casual,' in a barley-field near the town of Modbury, July, 1878.

First record : *Jacob*, 1836.

182. *T. striatum*, L. Soft-knotted Trefoil.

Native ; in dry turf, rocky, or sandy waste spots, and in pastures. Rather common. June.

- c. I. Near Crafthole ! *Jones, Tour*, 16. St. Germans Hut ; *Keys, Fl.* ii. 120; seen at the Beacon and Mount Pleasant. Slaty spot at the junction of two lanes between the Saltash and Callington Road and Pillaton.
- II. About slate quarries near Trevol and Borough farm-house, Antony. Between Incsworth and Southdown. By the Callington Road, near Saltash, and between Hatt and Penters Cross. Tinnel Green. Calloget Green.
- d III. Devil's Point, Stonehouse. By a slate quarry on the side of the Plymouth and Saltash Road at Ford, and on a rocky bank between this road and St. Budeaux. Saltash Passage. Near Whitleigh. Blaxton, and between that and Pound farm-house.
- IV. Under the walls of Plymouth Citadel ; *T. B. Flower, Ravensh.* *Fl.* 19. Bovisand ; the type and *var. erectum*, Leight. ; *Keys, S. D. Lit. Chron.* 300, and *Fl.* ii. 120. Cattedown, 1872. Hoe. Pasture between Lipson and Compton village. On the eastern side of the Plym estuary at Pomphlet, &c. Lower Mount Gould. Crabtree. Rumble, and by the tramway at Common Wood, Egg Buckland. Between Elburton and Plympton. Between Chaddlewood and Venton. Waste spot between Lower Whittleborough and Bickleigh Bridge.
- V. In the neighbourhood of the coast between Down Thomas and Wembury, and at Revelstoke. Bridgend, by the road to Puslinch. On slaty refuse by Coffleet Lake. On a bank at Weston.
- VI. By Bigbury Bay below Ringmore. Carsewell. Between Kingston Rock and Torr.

Though partial to the neighbourhood of the coast, less of a maritime species than *T. arvense* and *T. subteranneum*. Like *T. glomeratum*, it quickly passes out of flower.

First record : *Jones*, 1820.

183. *T. scabrum*, L. Rough Rigid Trefoil.

Native ; on banks, in old pasture land and in sandy places by the coast ; less frequently in dry turf, or rocky spots in more inland situations. Rather common. May to July, or later.

- c. I. Port Wrinkle. Seaton.

- II. Tregantle Fort, and elsewhere in Whitsand Bay!; *Keys, Fl.* ii. 120.
- d. III. Devil's Point!; *T. W. Gissing, Phyt.* i. N.S. 25. Wall by the Tavy at Beer Ferrers.
- IV. Plentiful near Catdown Quarries!; *Jacob, Fl.* part 10. Under the Citadel; *Keys, S. D. Lit. Chron.* 182; Hoe! *idem., Fl.* ii. 120. Mount Batten and Turnchapel. Coast between Bovisand and Wembury. In several places on limestone between the east bank of the Plym and Elburton village, as near Pomphelet farm-house, by a quarry between Radford and Plymstock, road near Hay farm-house, near Elburton, &c. Slaty bank by the brackish stream at Crabtree; also on slate by the tramway at Leigham, Egg Buckland.
- V. Gurrows Down, and elsewhere above the coast, Revelstoke.
- VI. Kingston side of the Erme estuary. By Bigbury Bay below Ringmore.

Frequent on the coast; rare and very local elsewhere.

First record: *Jacob*, 1836.

184. *T. glomeratum*, L. *Smooth Round-headed Trefoil.*

Native; in waste spots, old pasture land, and on banks on or near the coast. Rare. June.

- c. I. St. Germans Hut, Whitsand Bay; *Keys, Fl.* ii. 121; on the side of the Beacon, 1876.
- II. Forder, Rame; *ibid*; on a bank by the lane, in considerable quantity, 1875.
- d. IV. On the coast between Bovisand and Wembury; noticed here in a stony brake a little way in from the shore, 1869, also in a pasture, 1875. Bank by Heybrook Road, near Down Thomas, 1865, 1875, &c.
- V. In plenty in dry turf spots on the sea-bank above Wadham Beach, by Bigbury Bay, 1875.

The rarest of the native Trefoils growing here.

First record: *Keys*, 1867.

185. *T. hybridum*, L. *Alsike Clover.*

Alien; now established by some roadsides, through its having been introduced as a fodder plant. Rather common. June to September.

- c. I. By the turnpike road near Antony village, for a distance of two miles or more, seemingly quite established, 1861. Between this road and Hessenford. Between Latchbrook and Notter Bridge. Between Landrake and Tideford. Trethill Lane, Sheviock. Between Polbathick and Menheniot. Crafhole and Looe Road. Cutmere. Near Pillaton village.

- II. Near Forder, Rame. Between St. Johns and Millbrook. Between Cremyll and Kingsand. Near Trevol. Saltash and Callington Road, near Botus Fleming and St. Mellion. Between Penters Cross and Landulph.
- D. III. Between Knackersknowle and Roborough villages, 1862, 1873, &c. Between Knackersknowle and Tamerton Foliot, and about Tamerton. Plymouth and Saltash Road.
- IV. Crabtree. By the road near Plympton St. Mary Church. Plympton and Plymbridge Road. Two plants between Pompsonphlet and Billacombe, 1872.
- V. A plant by the roadside near Wembury House, 1873. Near Battisborough Cross, by the road to Holbeton, 1875. Near Membland, 1875. Sparingly between Westcombe farm-house and Newton Ferrers village, 1873. Between Yealm Bridge and Flete.
- VI. Between Carsewell and Lambside. By the turnpike road at Flete. Between Mothecombe and Kingston, 1875.

This comparatively recent introduction is rapidly becoming established. It is partial to clayey roadsides.

186. *T. repens*, L. White Clover; Dutch Clover.

Native ; in pastures, on commons, in waste grassy spots, and by roadsides. Very common. Part of May to September. Area general.

Extends from the coast to the open commons about Dartmoor. It seems to stand smoke well, as it is frequent in the turf of gardens in the town. Undoubtedly indigenous, though much sown with other trefoils and grasses.

187. *T. procumbens*, L. Hop Trefoil.

Native ; on dry banks, in waste spots, and in pastures. Very common. June, July. Area general.

This is a frequent species on the old refuse heaps from quarries, whether of slate or limestone. A nearly allied Continental plant, *T. agrarium*, Schreb. ; *T. aureum*, Poll., is now sometimes to be seen in fodder-fields, introduced with sown clovers and grasses. The more golden hue of its flowers furnishes an obvious mark of distinction between it and *procumbens*.

188. *T. minus*, Relhan. Lesser Yellow Trefoil.

Native ; on banks, in waste turfy spots, pastures, &c. Very common. May to September, or later. Area general.

The commonest of our annual Trefoils.

189. *T. filiforme*, L. *Least Yellow Trefoil.*

Native ; in dry sandy or turf-y waste spots, in pastures, marshes, and on commons. Common. May to September, or later.

- c. I. St. Germans Beacon, at 500 feet. Marsh above Denabole Lake, and elsewhere, Sheviock. Turfy spot by the Notter below Screasdon Fort.
- II. Maker Heights ; *Keys, Fl.* ii. 122. Carbeal, near Torpoint. Waste spot near Borough farm-house, Antony. Carkeel.
- d. III. Devil's Point, Stonehouse ; *Keys, ibid.* Near Blaxton, by the path towards Horrabridge.
- IV. Chelson Meadow. In profusion on the lawn at Little Efford. By the tramway at Leigham, Egg Buckland. Fancy. Bickleigh Down.
- V. Revelstoke. Near Elburton. Westlake Green. Weston.
- VI. Turfy bank near Torr, Kingston, and elsewhere about Kingston.

T. suffocatum, L. Near Crafthole ; *Jones, Bot. Tour.* Error. Some other species doubtless mistaken for it.

LOTUS, L.190. *L. corniculatus*, L. *Common Bird's-foot Trefoil ; 'Shoes and Stockings.'*

Native ; on banks, cliffs, commons, and in pastures. Very common. May to September. Area general.

Extends from the coast to Dartmoor.

The var. *b. crassifolius* of *English Botany*, ed. 3, having the leaflets thick and fleshy, on a grassy sand-bank at the extremity of the vale below Kingston village (District vi.), 1875. The var. *villosus* near Prince Rock, by the Cattedown quarries (District iv.), 1873.

191. *L. tenuis*, Kit. *Slender Bird's-foot Trefoil.*

Native ; on banks, in waste grassy spots and pastures. Rather rare, though widely distributed. June to September.

- c. I. Bank by the turnpike road between Sheviock Church and Polscove.
- II. Pasture at Cremyll, 1862, 1875. Near the houses of the Preventive Station, Rame.
- d. III. Marsh at Blaxton.
- IV. On hedge-banks by the Plymouth and Totnes turnpike road, between the third milestone from Plymouth and Elburton. Pasture land, Common Wood, Egg Buckland.
- V. Pasture at Wembury, above the Yealm estuary. Field between Staddiscombe and Knighton, 1875.
- VI. Bank by the Kingsbridge Road, near Modbury ; station perhaps just beyond the area of the *Flora*.

Plants occur about some of the military forts near Plymouth, and also elsewhere, which are more like *L. tenuis* than *L. corniculatus*, yet do not appear sufficiently marked to allow me to confidently assign them to the former. I think that at some places at least these may have been sown with clover and grass seeds.

First record : Briggs, 1860, in *Phytologist*.

192. *L. major*, Scop. Marsh Bird's-foot Trefoil.

Native ; in damp spots by roadsides and ditches, in marshes, pastures, and moorland swamps. Very common. June to August. Area general.

Grows in the immediate vicinity of Plymouth, as between the town and Milehouse ; and extends from the neighbourhood of the coast to the swamps and vales of Dartmoor.

193. *L. angustissimus*, L. Long-podded Small Bird's-foot Trefoil.

Native ; in old pasture land, on banks, and in turf spots on or near the coast ; or in the vicinity of tidal waters. Rare. June to September.

c. I. St. Germans Hut, Whitsand Bay ; *Keys, Fl.* ii. 124 ; side of the Beacon, 1876. On a bank by a lane at Broadmoor, St. Stephens, about three miles from the coast, but within half-a-mile of the tidal Notter, 1871 ; in plenty, 1878.

II. [Lane leading from Trevol, near the village of St. Johns : for specimens and the habitat of this plant I am indebted to my friend the Rev. W. S. Hore, who gave them to me in July, 1834 ; *Jacob, Fl.* part 4 ; with plate. Not seen here for many years.]

Whitsand Bay, with the following species ! ; *Hore, in Phyt.* i. 163. Maker Heights ! ; *Syme, E. B.* ed. 3, iii. 69. Forder, near Rame ! ; *Keys, Fl.* ii. 124. Rame Head, and in numerous spots between that and Penlee Point.

d. IV. In pasture land between Bovisand and Wembury Church ; noticed at various times and in different spots ; seen in considerable quantity in a dry grass-field there in 1875.

V. Above the High Cliffs, Wembury. Above the coast near Worse-well Farm-house, Revelstoke, in tolerable quantity, 1875. Two plants noticed in a cart-way above Wadham Beach, by Bigbury Bay, 1875.

This, together with *L. hispidus*, delights to grow in old turf ground patched with furze, on the warm sea-bank above our rocky shores. Here the two are much more frequent than might be supposed, considering the statement as to their great rarity in leading works on British botany. The size of the plants greatly depends on the character of the season ; in

wet summers luxuriant ones will sometimes have branches ten inches or a foot long.

First record : *Jacob*, 1835.

194. *L. hispidus*, Desf. Short-podded Small Bird's-foot Trefoil.

Native ; in old pasture land, on banks, in turf spots and sometimes fields of grass, on or near the coast. Rare. June to September.

- c. I. St. Germans Hut ; *Keys*, *Fl.* ii. 124.
- II. Maker Heights ; *Syme*, *E. B.*, ed. 3, iii, 70 ! ; 1873. Forder, near Rame ; *Keys*, *Fl.* ii. 124. Rame Head, and between that and Penlee Point. Associated at all the above stations, and many of the others, with *L. angustissimus*.
- d. IV. In pasture land and elsewhere above the coast between Bovisand and Wembury Church ; as in a dry field opposite the Mewstone, 1865 ; in abundance, 1875 ; about an old quarry a little nearer Down Thomas, 1867 ; in another field apparently broken some years previous, 1869.
- V. Cliffs at Nitton (Netton), near Revelstoke ; *Rev. R. Julian*, *Ravensh. Fl.* 124 ; in abundance in old turf land above the coast near Worsewell farm-house to the west of Netton, 1879. Above the High Cliffs, Wembury. In a turf spot and cart-way above Wadham Beach by Bigbury Bay, 1875.
- VI. In considerable quantity in a grass-field above Bigbury Bay, between Kingston and Ringmore, 1875.

A comparison of the above stations with those under *L. angustissimus* will show how very similar is the distribution of the two plants. *L. hispidus* seems more disposed than the other to reappear after the soil has been broken for cultivation. Its flowers are of a darker yellow than those of *angustissimus*. The respective length of the legume forms a good character for distinguishing the two when in fruit. I have recorded many of the stations for both in the *Journal of Botany*.

ORNITHOPUS, L.

195. *O. perpusillus*, L. Least Bird's-foot.

Native ; on commons, banks, in old pasture land, and dry or sandy waste spots. Common. May to September.

- c. I. St. Germans Beacon. Between Hessenford and Seaton. Trevol-lard Green. Viverdon Down. Cadsonbury.
- II. Near the ruin, Mount Edgcumbe ; rock in Antony Wood ; *Banks*, *Fl.* No. 6. Maker Heights ; *Keys*, *Fl.* ii. 130. Saltash. Carkeel.
- d. III. Waste ground behind Mount Tamar House ; *Banks*, *ibid* ; still

at King's Tamerton. Near Blaxton. Beer Ferrers. Roborough Down. Sampford Spiney.

- IV. About Shaugh ! Staddon Heights ; *Banks, ibid.* In profusion in the neighbourhood of the coast between Down Thomas and Wembury. Riverford, Plym Valley. Fancy. Ringmoor Down.
- V. Revelstoke ; *Julian in Naturalist, ii. 118, Keys, Fl. ii. 130.* Wembury. Hanger Down.
- VI. Kingston, above the coast, &c. By the Anchorist Rock. Near Ivybridge.

Partial to the neighbourhood of the coast, as well as the sandy portions of the open commons and moorland.

First record : *Banks, 1830.*

Onobrychis sativa, Lam. Rarely sown as a fodder plant. I have seen it at Staddon, Newnham, Carsewell, and Gnaton. After its introduction it may linger for some time in certain spots.

VICIA, L.

196. V. *hirsuta*, Koch. *Hairy Tare.*

Native ; under hedges, on banks, and sometimes as a weed among corn or other crops. Common. May to September.

- c. I. Near Trevolland. Landrake. Sheviock. Between Hatt and Penters Cross.
 - II. Rame. St. Johns. Saltash. Tinnel.
 - d. III. Hartley Hill, near Plymouth. Pennycross. St. Budeaux. Tamerton Foliot. Buckland Monachorum.
 - IV. Saltram. Plymstock. Egg Buckland.
 - V. Wembury. Newton Ferrers. Brixton. Plymouth and Ivybridge Road.
 - VI. Mothecombe. Between Sequers Bridge and Kingston.
- Perhaps this would have been as well placed if put in the 'very common' list. First record : *Banks, 1830.*

197. V. *tetrasperma*, Moench. *Four-seeded Slender Tare.*

Native ; under hedges, on banks, and sometimes as a weed among corn or other crops. Common. June to September.

- c. I. Between Antony and Tregantle. Sheviock. St. Germans. Near Trevolland, &c., St. Stephens. Landrake. Pillaton.
- II. Millbrook ; *Banks, Fl. part 6.* St. Johns. Near Saltash. Kingsmill. Between Etheric and Cotehele Quay.
- d. III. Prospect ; *Banks, ibid.* St. Budeaux. Tamerton Foliot.
- IV. Hedges about Underwood ; Egg Buckland ! *idem.* Saltram embankment ; Compton ; *Keys, Fl. ii. 126.* Laira embankment. Between Plymstock and Elburton.

V. Revelstoke. Newton Ferrers. Mem bland. Between Yealm Bridge and Ermington.

VI. Mothecombe. Kingston. Ivybridge.

Banks speaks of this as 'not common ;' but it is certainly otherwise at present. I think it as plentiful as *hirsuta*; the two often grow together. First record : *Banks*, 1830.

198. V. Cracca, L. Tufted Vetch.

Native ; in hedges, bushy places, and sometimes in pastures and grassy spots by roadsides. Very common. June to August. Area general.

One of the most widely diffused species of the genus.

199. V. sepium, L. Bush Vetch.

Native ; on hedge-banks, and in bushy places. Very common. April to July ; and sometimes again sparingly in autumn. Area general.

One of the most frequent species on the hedge-banks by the lanes, but not met with in the exposed open tracts. A variety with pure white or whitish flowers is rather frequent : seen near Botus Fleming (District II.) ; known for ten years near Honicknowle (III.) ; noticed in different spots about Plympton (IV.) ; near Puslinch, and near Lynham. (V.)

200. V. lutea, L. Rough-podded Yellow Vetch.

Native ; on a coast cliff. Very rare. June, July, or later.

c. I. St. Germans Hut ; sp. *Herb. Easton.* ; also *Keys, Fl.* ii. 127. Mr. Pascoe writes with reference to this station : "Mr. Hore has added *V. lutea* ;" *Pascoe* in *Phyt.* ii. 944. Collected in that neighbourhood by Mr. W. B. Waterfall in 1877.

First record : *Pascoe*, 1847.

201. V. sativa, L. Common Cultivated Vetch.

Casual ; a stray from cultivation on hedge-banks, by roadsides, and in fields. Very rare.

Generally found singly, and nowhere established. Probably only a cultivated variety of the next species, *V. angustifolia*. As fields of vetches are cut before seed is formed, and the roots are ploughed up shortly after, there would seem to be little probability of the cultivated vetch ever becoming naturalized.

202. V. angustifolia, Roth. Common Wild Vetch.

Native ; on banks, cliffs, and grassy waste spots. Common. May to July, or later.

c. I. Cliff at Port Wrinkle. Between Caracawn Cross and Hessenford. Near Tideford. Antony, some specimens with white flowers,

on a hedge-bank by the turnpike road, and one in an adjoining field, 1872; again seen, 1879. Saltash and Callington Road. Near Elmgate.

- II. Near Saltash; between Torpoint and St. Johns; *Keys, Fl.* ii. 127. Near Antony. Tinnel.
- D. III. Plymouth and Saltash Road.
- IV. On limestone rubble, Cattedown; also on the eastern side of the Plym estuary. Laira embankment. Plymbridge Road, and elsewhere, Egg Buckland. Between Marsh Mills and Plympton. Near Bickleigh Bridge.
- V. Wembury. Revelstoke. Newton Ferrers. Between Holbeton and Battisborough Cross; a large form with the standard pale, as in *sativa*, 1873. Plymouth and Ivybridge Road. Near Fardel, Cornwood; a plant with white flowers there, 1874.
- VI. Mothecombe.

It will be seen that the variety with white flowers, growing at Antony, was gathered in 1872, and noticed again in 1879, making it probable that the variation, though so slight, had been continued by seed through the intermediate years.

b. Bobartii.

Common on dry banks and in rocky or stony waste spots.

- c. I. By the Crafthole and Looe Road near St. Germans Beacon. Sheviock. Between Torpoint and Antony.
- II. St. Johns. On slaty refuse by an old slate quarry near Trevol. Between Kingsmill and Landulph. Saltash and Callington Road. Cotehele.
- D. III. By a quarry near Keyham, by the road to Saltash. By one near Ford, at the side of the Plymouth and Saltash Road. Maristow.
- IV. Lipson, in a waste spot above the road to the old mill, 1872. Grassy spot by the Great Western Railway at Crabtree. Shalaford, between Leigham and Estover, and Rumble, in the parish of Egg Buckland.
- V. Between the Plymouth and Ivybridge Road and Choakford.
- VI. Kingston.

This var. *Bobartii* delights to grow on the old refuse from slate quarries. The type gradually passes into it by intermediate forms.

203. [V. *bithynica*, L. *Bithynian Vetch.*

Extinct?

- D. IV. Mothecombe; *Hore, Sp. Herb. Plymouth Institution.* No recent record. I have searched in vain for it about Mothecombe.]

V. sylvatica, L. Embankment at Saltram; *Ravensh., Fl.* and *Keys, Fl.*; the latter also, Bovisand, on the rocks. Errors. The plant at the

former station is *Lathyrus latifolius*, growing with planted shrubs ; that at Bovisand is *Lathyrus sylvestris*.

V. lathyroides, L. Near Ivybridge, on the banks of the Erne. Jones, *Bot. Tour*, and also *Fl. Dev.* Doubtless *Bobartii* or some other small form of *angustifolia* mistaken for it.

LATHYRUS, L.

204. L. *Nissolia*, L. Grass-leaved Vetch.

Colonist, probably ; on a bank and in waste ground. Very rare. June, July.

d. III. Whitleigh, Tamerton, Mr. Stewart, June, 1866 ; Keys, *Fl.* ii. 128.

In a piece of ground rendered waste by the fortification works at St. Budeaux, near the village, with both flesh-coloured and the ordinary crimson flowers, June, 1869. No more recent records for this district.

IV. Catdown Quarries, 1860 ; Keys, *Fl.* ; sp. in *Herb. Plym. Inst. W. S. Hore.* ! 1860, 1879, &c.

It occupies a few square feet on an old ballast or rubble heap overgrown with brambles and herbaceous plants. I first noticed it in June, 1860, but the specimen in *Herb. Plymouth Institution* proves that it was known to the Rev. W. S. Hore many years before. Mr. Keys remarks : " It would seem to appear at intervals," which may be the case ; for after 1860 I did not see it again at the station until 1871. There is a specimen in *Herb. Easton* labelled 'Catdown Quarries,' collected probably at least thirty years ago. I inserted some remarks on its occurrence at this station in *Jour. Bot.* i. N.S. 260. Recent alterations may have now (1880) destroyed it there.

205. L. *pratensis*, L. Meadow Vetchling.

Native ; on hedge-banks, and in waste bushy or grassy places.

Very common. June, July, and occasionally later. Area general.

In hedges just around Plymouth, as well as in those in the vicinity of Dartmoor.

206. L. *sylvestris*, L. Narrow-leaved Everlasting.

Native ; on cliffs on, or near, the coast. Rare and local. June to September.

c. 1. In two bushy spots on a cliff by the coast a little west of Seaton Sands, in moderate quantity, 1876. Previously noticed between that and Looe ; possibly a little beyond the western limit of the area.

d. IV. Bovisand ; sp. in *Herb. Easton.* ; seen there by my brother, Major Briggs, in 1871.

V. In plenty on cliffs near Revelstoke Church ; some patches above Wadham Rocks, near Lambside. Sparingly among bushes by the road to Yealm Ferry from Noss.

VI. In several spots above the Erme estuary, occurring on each side.

L. Aphaca, L. Casual, now extinct. Near Tamerton Foliot, 1860, and for a few subsequent years. *Briggs* in *Jour. Bot.* i. 377.

L. tuberosus, L. Alien, probably derived from a garden. On the first embankment from Plymouth by the side of the Laira estuary. In June, 1871, I noticed about five small patches, all near together. At least 14 or 15 years before I saw it in the locality, but was then ignorant of the name. After becoming a botanist I searched for it in vain, and had given up all hopes of seeing it again until, in passing over the embankment one day in 1871, my eyes lighted on it in the old locality, a much frequented one, where its showy flowers could scarcely fail to have been observed had they been regularly produced in the intermediate seasons.

L. latifolius, L. Casual, or planted. Side of an oat-field by Plymbridge Road, Egg Buckland, 1860. *Briggs* in *Phyt.* v. N.S. 369. Not seen since. On the further from Plymouth of the Laira embankments, with other garden 'escapes' or 'outcasts' in the neighbourhood. On Saltram embankment, with planted shrubs. This is the well-known 'everlasting pea' of our gardens.

OROBUS, L.

207. O. tuberosus, L. Tuberous Bitter Vetch.

Native ; on hedge-banks, in bushy waste spots, and on the borders, and in the less dense parts, of copses and woods. Common. April to part of June ; and sometimes again in the autumn, sparingly.

- c. I. Hessenford. Between Heskyn and Cutcrew Mills. Between Burraton and Notter Bridge. Landrake. Sheviock. St. Mellion. Clapper Bridge.
- II. Between Trevol and Antony. St. Johns. Near Carkeel and Kingsmill.
- d. III. Manadon Wood ; *Keys*, S. D. *Lit. Chron.* 300, and *F.*. Bank by the Plymouth and Saltash Road between Ford and Weston Mills Lake ; also between Weston Mills and Honicknowle, Ham Vale. About Tamerton Foliot. Tavy Valley.
- IV. Saltram ; Bickleigh ; *Keys*, *ibid.* Between Goosewell and Stad-discombe. Plymbridge, Fursdon, &c., Egg Buckland. Fancy.
- V. Between Noss and Yealm Ferry. Near Puslinch. Between Fardel and Oundle, Cornwood. Near Venton and Slade.

VI. Saltercress. Between Kingston and Ringmore. Efford. Between Gutsford Bridge and Kingston; in one spot with light flesh-coloured flowers. Ivybridge.

b. tenuifolius, Roth.

On commons, and in situations similar to those named under the typical plant. Common.

- c. I. Saltash and Callington Road, near Botus Fleming, and by a lane leading thence towards Trematon, in plenty; also between that road and Pillaton. By the Callington Road, near Clapper Bridge. Viverdon Down.
- II. On wooded banks near Kingsmill, with the type. With it between St. Mellion and Halton Quay. Elsewhere near the village of St. Dominick.
- d. III. Ham Wood. Below Woodlands Fort. Inchers. Roborough Down, and by the lane thence to Tamerton Foliot.
- IV. Saltram; *Keys, Fl.* ii. 130. Bircham, and in a wood between Plymbridge and Riverford, Egg Buckland. In furzy ground near Cann plantations. Field and lane to Crownhill Down, near Bottle Hill Mine.

VI. Ivybridge.

This passes into the typical form by intermediate ones, and extreme *tenuifolius* sometimes grows on the same bank with the type. An intermediate example in *Herb. Borrer* at Kew is labelled *O. tuberosus-angustior*. It was collected "by the Walkham river, near Vixen Tor, Dartmoor;" probably a little beyond our area.

ROSACEÆ.

PRUNUS, L.

208. P. spinosa, L. Blackthorn.

Native; in hedges, waste bushy spots, copses and woods. Very common. March, April. Area general.

One of the commonest species, being generally diffused both as a hedge-row shrub and thicket bush. I have noticed the slight variety *coëtanea*, in which the leaves and flowers appear simultaneously, at Antony and Rame. At the latter place it occurs in plenty near the church.

209. P. insititia, L. Anglor. Bullace.

Native; in hedges, thickets, and other bushy spots. Common. April.

- c. I. Hedge between Trematon village and the Notter. Between Polscove and Crafthole. Near St. Mellion.

- II. Hay Lane, and near Borough farm-house, between Torpoint and Antony. Saltash. Bank by Forder Lake.
- d. III. Plymouth and Saltash Road. Hedge near Bull Point by the foot-path across the Government ground.
- IV. On the bushy edge of the first of the path-fields by the old road from Tothill to Laira, by the marshes. Hedge by the Plymouth and Totnes Road between Pomphlet and Billacombe. Plympton.
- V. Near Bridgend. By the Yealm near Kitley. Cornwood.
- VI. Efford. Holbeton. Modbury.

The shrub occurring at many, perhaps all, of the stations given is, I think, referrible to the *P. fruticans*, Weihe, of the Continental botanists. Its larger flowers and leaves, the latter hairy below, and its more plum-like aspect in general, serve to distinguish it from the sloe, though it comes nearer to it than do any of the other forms assignable to *insititia*, Anglor. The shrub given as occurring between Pomphlet and Billacombe has fewer hairs on the under surface of the leaves than is usual, and the leaves themselves are more gradually narrowed into the petiole than is commonly the case. I do not venture, without further study, to severally assign to *insititia* or *domestica* some of the bushes growing about Plymouth. Among them is a form that has leaves so thickly hairy below that they are rendered quite clothed in texture, and the young branches have many short downy hairs, yet the large leaves and the general habit of growth make the bushes look very similar to some of our cultivated plums. Possibly this form may be the *P. insititia* of Continental botanists, as distinct from *P. fruticans*. (See remarks in *Rep. Bot. Ex. Club*, 1876, p. 6.)

210. *P. domestica*, L. Wild Plum.

Denizen; in hedges and bushy spots near houses. Rather common. April.

- c. I. Downderry, as a hedge-row bush, very near houses. Hedge by an old lane between Notter farm-house and Moditon Mill; bush plentifully spinous below, but the leaves on the young shoots too large and broad for *insititia*, Anglor.
- II. Hedge-row near Kingsand, by the road to Millbrook. Hedge near a house at Lower Tregantle, with *Smyrnium* on the bank below. Hedge, Pill near Saltash.
- d. III. Hedge close to an orchard at Combe, between Weston Mills and Honicknowle. Hedge, Blaxton; probably *domestica*.
- IV. Ubbaton, Bickleigh; *Keys*, Fl. ii. 131. Hedge-row by the Plymouth and Totnes Road, near Pomphlett farm-house. Hedge by an orchard near Hay farm-house. Between Marsh Mills and Plympton St. Mary Church. Hedge at Alderpit, Egg

Buckland. By the tramway near Darklake farm-house, Bickleigh. Hedges about Whittaborough, Shaugh.

- V. Hedge bounding an orchard by the Plymouth and Totnes Road, near Elburton.

A plum growing above a sea-cliff close to Revelstoke Church may belong here, but requires further study. I have no record of *P. domestica* for District vi., but it very probably occurs near some of the old farm-houses lying within it.

The fruits of the wild Plum are called 'Bullums' by country children.

211. P. Avium, L. Wild Cherry.

Native? In woods, copses and hedge-rows. Common. April, part of May.

- c. I. Sheviock Wood and Sconner. Landrake. Between Wotton Cross and Blunts. Between St. Mellion and Viverdon Down.
- II. Low cliff by the Tamar near Combe, Saltash. About Moditonham. Between St. Mellion and Halton Quay.
- d. III. Near Weston Mills, and in Ham Wood. Saltash Passage. Whitleigh Wood. Warleigh Wood. Beer Ferrers.
- IV. Fursdon, Bircham, and Plym Valley, Egg Buckland. Hedge by the lane to Elburton from the Brixton and Plympton Road. Plympton St. Mary.
- V. Langdon. Brixton Torr. Between Yealm Bridge and Ermington. Near Stretchley. Some fine trees in a wood near Cornwood.
- VI. Kingston. Hedge between Mothecombe and Battisborough.

Widely spread and completely naturalized, if not a native tree. A small black cherry known as the 'Mazzard,' or 'Brandy Mazzard,' is extensively cultivated in certain parts of Districts ii. and iii. It was remarked long ago by Polwhele, "The cherry gardens on each side of the Tamar may, probably, be traced back to very ancient times." *Hist. Cornwall*, i. 172.

212. P. Cerasus, L. Dwarf Cherry.

Denizen; in hedges; for the most part near old houses or villages. Rather common. Latter part of April, early part of May.

- c. I. Two bushes in a hedge between Seaton Sands and Hessenford. Hedge by an orchard at Broadmoor, St. Stephens. Hedge, Minard Cross, near houses. Hedge-row between St. Mellion Churchyard and Viverdon Down.
- II. Rame; *Hore, Keys, Fl.* ii. 132. Hedge by the Saltash and Callington Road near Carkeel. In one close to a house between Botus Fleming village and Kingsmill. In a hedge-row between fields above an inlet on the western side of St. Johns Lake, near bushes of *Berberis vulgaris*.

- d. III. Hedge by an orchard near Whitleigh. By Combe Lane, Tamerton Foliot, near farm-houses. In plenty in hedges near Pound, Buckland Monachorum.
- IV. Hedge close to the hamlet of Thornbury, Egg Buckland. Hedges on Derriford estate. Between Plympton and Plymbridge. In one by the tramway near Darklake farm-house.
- V. Near Revelstoke farm-house, and elsewhere in hedges in that parish. Between Creacombe and Holbeton. In hedge-rows by a lane between Sparkwell and Lee Mill Bridge. Hedge near Stretchley farm-house ; also in one between Lynham and Yealmpton, and near Collaford. Plymouth and Ivybridge turnpike road. Near Venton, and elsewhere in the neighbourhood of Cornwood.
- VI. Kingston ; in a hedge close to the village, and in a bushy spot above the Erme estuary. Hedge near Caton. Modbury.

This seems not to be connected with *P. Avium* by intermediate forms, but to be truly distinct from it. The two differ considerably in general habit, leaves, flowers, and fruit. The shape of the fruit in *Cerasus* is admirably described by Dr. Bromfield as ‘small subdepresso-globose, and scarcely cordate.’ *Fl. Vect.* 146. It is not unfrequently produced, though usually sparingly at any one spot. *Cerasus* begins to flower a week or two later than *Avium*. The fruit ripens at the beginning of July.

P. Padus, L. Occurs in a hedge at Lutton, Cornwood, close to where was evidently a house at no distant date. It is associated with *Symphoria racemosa* and *Aegopodium Podagraria*.

SPIRÆA, L.

213. S. Ulmaria, L. Meadow Sweet.

Native ; by streams, ponds, and ditches, in marshes, meadows, and on damp hedge-banks. Very common. July to September. Area general.

Found in damp spots over all the low portions of the enclosed country. Occurs in the immediate neighbourhood of Plymouth, as by the old course of the leat on Mutley Plain. In 1872 it grew by a stream at Lipson that has since been converted into a drain.

214. S. Filipendula, L. Dropwort.

Denizen or Alien ; on banks and the borders of fields. Very rare. June, July, or later.

c. II. On a dry hedge-bank, extending to the edge of the adjoining field by a lane near Cargreen, leading thence towards Landulph. Doubtless introduced originally ; for *Vinca major* grows in the locality, and *Ruscus aculeatus* occurs.

- d. IV. On the edge of a field, the site of an old garden, nearly opposite some cottages, between Bickleigh Down and the Vicarage House. *Symphoria racemosa* grows near it.
- VI. Plentifully established on a bank at Kingston, close to the village, associated with *Tanacetum*; also sparingly on another by an orchard. A rather large patch on the edge of what was evidently once a small garden near Pamflete, growing near *Vinca minor* and a garden rose.

S. salicifolia, L. Sparingly in a hedge-row by the turnpike road a little east of Yealm Bridge, near the toll-gate. An old garden species.

AGRIMONIA, *Tournef.*

215. A. *Eupatoria*, L. Common Agrimony.

Native; on hedge-banks, in waste spots by roadsides, also in old pastures and orchards. Very common. June to August. Area general.

Extends from the neighbourhood of the coast to the semi-moorland tracts. It is not very plentiful just around Plymouth, owing possibly to its being much gathered by poor persons for medicinal purposes. They may sometimes be seen carrying bundles of it, as well as of *Spiraea Ulmaria* and *Teucrium Scorodonia*, into the town. Luxuriant plants have occasionally two nuts in a single fruit. I have seen this with light yellow flowers near Membland.

216. A. *odorata*, Mill. Fragrant Agrimony.

Native; in the same situations as *A. Eupatoria*. Rather common, and widely distributed. Part of June to August.

- c. I. Near Port Wrinkle, by the road to St. Germans Beacon, &c. Near Polscove. Between Polbathick and Trerule Gate, in considerable quantity, about Hessenford, Minard Cross, and near Narkurs, St. Germans; ascending to about 430 feet. Between Latchbrook and Notter Bridge, and about Landrake. Pillaton. Lane on the right bank of the Notter near Derniford Farmhouse. Quethiock.
- II. St. Johns; a plant in the lane above the village, 1875. One or two near Burraton, St. Stephens, 1870. Several between Kingsmill and Elbridge, 1873.
- d. III. A plant in the lane between Pounds and Boxhill, and another between Burrington and Manadon, 1873. Tamerton Foliot; seen near Looseleigh by the road to Knackersknowle, at Postham, and in Southaway Lane. Between Buckland Monachorum and Denham Bridge. Near Beer Alston. Between Horrabridge and Tavistock.

- IV. Egg Buckland ; noticed in this parish at Derriford, Bircham, Estover, Leigham, Plymbridge Road, Thornbury Lane, Egg Buckland Hill, &c. By the tram-road between Common Wood and Fancy House. Waste spot by the Plymouth and Tavistock Railway line above Bickleigh Vale, and near Shaugh Bridge. Between Plym Bridge and Plympton. About Hemerdon and Newnham. Between Colebrook and Elfordleigh.
- V. Between Dunstone and Holbeton. Near Lynham and Harestone. Lane near Stretchley farm-house, and by the Plymouth and Exeter Road in that neighbourhood. Between Yealm Bridge and Ermington. Between Fursdon and Slade.
- VI. Between Kingston and Ringmore. Between Torr and Gutsford Bridge. About Modbury. About Ivybridge.

Some of the stations given here will be found recorded in the *Journal of Botany*.

A. odorata not unfrequently grows with *A. Eupatoria*, but even when out of flower and fruit its agreeable odour serves to distinguish it from the commoner species. Moreover it has silkier and longer, though less densely disposed, hairs on both leaves and stem, causing the foliage to look less clothed. The leaflets are considerably longer, and not so flat, sometimes having the edges incurved. In fruit other differences become apparent.

First record : *Briggs*, 1866, in *Jour. Bot.* iv.

SANGUISORBA, L.

217. S. officinalis, L. Great Burnet.

Native ; on river banks, in meadows, and other moist places. Rare. July, August.

- c. II. Weir Head ! ; *Mr. C. Johns* ; *Banks*, *Fl.* part 6.
- d. III. Tavistock ! ; *C. E. Parker*, *Ravensh.* *Fl.* 22. Walkhampton ; *Hore* ; *Keys*, *Fl.* ii. 133 ; seen in the river valley between that village and Merrivale Bridge in 1868. Meadow a little below the Weir Head, near Wheal Russell Mine, 1874.
- IV. Wood near Wear Gate by the river Mew ; *MSS. Tour of Sir Francis Drake* and *Mr. Hudson* ; *Fl. Dev.* 29. Meadow by the Plym between Bickleigh and Shaugh Bridges. On the right bank of the river below Cadover Bridge, just after the enclosures commence.
- V. By a stream in a meadow near Cornwood Vicarage House ; perhaps now destroyed by alterations of the surface.
- VI. Ivybridge ; *Ravensh.* *Fl.* 22. I have seen it by the Erme above the village. Hedge-bank near Caton.

First record : *Jones and Kingston*, 1829.

POTERIUM, L.

218. P. Sanguisorba, L. *Common Salad Burnet.*

Native ; on banks, in pastures and waste spots. Rather common and widely-distributed, but abundant only in certain places. May to July, or later.

- c. I. Sparingly between Seaton and Hessenford. Tideford, also sparingly.
- II. Torpoint !; *Keys, Fl.* ii. 133. Between Penters Cross and Car-green ; also sparingly between the former place and St. Mellion village.
- d. III. Limestone rocks near Devil's Point, Stonehouse. Plymouth and Saltash Road, abundant in certain spots. Southaway Lane, Blaxton, and elsewhere about Tamerton Foliot. Wall by the Tavy at Beer Ferrers, and between that and Holes Hole. Between Roborough Down and Buckland Abbey.
- IV. Plentiful on the rocks near Plymouth ; *Jacob, Fl.* part 2. Catdown, under the Hoe ! and Citadel, and on Staddon Heights ; *Keys, S. D. Lit. Chron.* 300, and *Fl.* ii. 133. Furze Hill, between Plymouth and Lipson. In many places on the limestone. Field at Coleridge, and on slaty refuse at Rumble, Egg Buckland. About the tramway near Bickleigh. Hedge-bank near Roborough village. Lane between Newnham and Crownhill Down.
- V. On the sea-bank near Worsewell, Revelstoke. Between Fordbrook and Staddiscombe. On slaty refuse by Coffleet Lake. Chittleburn.
- VI. Mothecombe ; also on the Kingston side of the Erme estuary. First record : *Jacob*, 1835.

P. muricatum, Spach. Established in some quantity on the border of a field at Newnham, in which it was doubtless originally sown for fodder.

ALCHEMILLA, Tournef.

219. A. arvensis, Scop. *Field Lady's Mantle.*

Native ; on banks, earth-capped walls, about the sides of roads on commons, or in the open parts of woods, and as a weed in arable land. Very common. April to November. Area general.

One of the commonest weeds ; to be seen close to the town, and both in the enclosed and open country. Often attacked by mildew.

220. A. vulgaris, L. *Common Lady's Mantle.*

Native ; in peaty pastures and other damp spots. Very rare. May to September.

d. III. In a damp field near the Manor House Inn, Walkhampton ; shown to me by Mr. William Bensley in 1862. In a low pasture near Blaxton Cross. Very sparingly on a bank in the Tavy valley, between Lophill and Denham Bridge, 1868.

IV. Near Cadover Bridge ; *Jacob*, *Fl.* part xv.

VI. Pasture near Pithill, Ivybridge.

Dr. Jacob in his *Flora* most erroneously calls this species annual. It will bear the smoke in a town garden, and is a pretty plant for cultivation.

First record : *Jacob*, 1836.

POTENTILLA, L.

221. P. Fragariastrum, Ehrh. *Barren Strawberry.*

Native ; on hedge-banks and wooded places. Very common. January to part of May. Area general.

Grows in the lanes close to the town. One of the earliest plants to commence flowering, opening its first blossoms when the Hazel begins to expand its catkins.

222. P. Tormentilla, Schenk. *Common Tormentil.*

Native ; on commons, moors, in old pasture land and on banks about woods and copses. Common ; very so in the less cultivated tracts. May to October.

c. I. Between Wacker and Denabole Mills. Clapper Bridge. Viverdon Down.

II. Old pasture land above Whitsand Bay. St. Johns. Wood between Kingsmill and Hatt. Hingston Down.

d. III. Manadon Wood ; *Keys, S. D. Lit. Chron.* 300, and *Fl.* ii. 136. Budshead. Warleigh. Between Denham Bridge and Beer Alston.

IV. Derriford, near Thornbury, and Common Wood, Egg Buckland. Heybrook Brake. Hemerdon Ball. Sheepstor.

V. Brake near Elburton. Crownhill Down. Cornwood.

VI. Between Kingston village and Bigbury Bay. Copse by the Erme near Efford.

One of the most frequent species, except where extirpated through cultivation ; abounding on moors and exposed banks about aboriginal woods.

223. P. procumbens, Schenk. *Creeping Tormentil.*

Native ; on dry hedge-banks and waste spots. Rather common. June to October.

c. II. St. Johns. Calstock.

d. III. Hedge-bank between Tamerton Foliot and Roborough, near the field-path by Postham. Near Horrabridge, by the Plymouth and Tavistock Road.

- IV. Hedge-bank between Plymouth and Cattedown, 1879. Hedge-bank near Fancy. On dry hedge-banks and in waste ground between Colebrook and Shaugh.
- V. Bank near Yealmpton village, by Eastern Torrs Wood. Between Cornwood railway station and the village, and near the Vicarage House.
- VI. Penquit. Between Harford and Ivybridge. Cornwood and Harford Road.

A most puzzling plant which I have only recently at all understood, and now I know not how to distinguish *P. mixta*, Nolte., from it. I have as yet no record for District I.; but it is very likely that it occurs within it. We have a plant growing in plenty on some hedge-banks near Plymouth which I am inclined to consider a small form of *P. reptans*, but which I think some botanists would name *P. procumbens*.

224. *P. reptans*, L. Creeping Cinquefoil.

Native; by gravelly roadsides, in pastures, and on banks. Very common. May to October. Area general.

Occurs on the Hoe. A densely villose variety, probably the var. *sericea* of Brébisson in *Flore de la Normandie*, grows between Etheric and Cotehele Quay. (District II.) The leaflets on a leaf of *P. reptans* vary in number from 5, or even 3, to 7.

225. *P. anserina*, L. Silverweed.

Native; by damp clayey roadsides, about pools, and in moist sand and on damp rocks by springs on the coast. Very common. May to September. Area general.

Found from the coast to the moorland commons. Sometimes the leaves are very hoary on the upper as well as the under surface.

226. *P. argentea*, L. Hoary Cinquefoil.

Native; in a dry turf spot. Very rare. June, July.

c. II. One plant in a turf spot at Trevol, July, 1865; five, April, 1868; in the autumn of this year all apparently destroyed by drought. In May, 1869, none were to be seen; but in August, 1871, ten plants were noticed, some apparently sprung out from old stocks, others from seed. In March, 1872, six were seen. The drought of the summer of 1874 destroyed all the old plants; but at Midsummer, 1875, about two dozen young ones were growing at the old spot. Some were seen in 1878; but all were gone in 1879, apparently rooted out by some ruthless plant collector. The hope that the species may again appear prevents me from enclosing this notice of it in brackets. This is its only known station in Cornwall. I now think it indi-

genous, although I formerly felt somewhat doubtful on the matter.

First record : *Briggs*, 1865, in *Jour. Bot.* iii.

[**COMARUM**, *L.*]

227. [C. palustre, *L.*] *Marsh Cinquefoil.*

Native ; almost certainly now extinct.

c. II. Near the Weir Head ; *Banks*, *Fl.* part 8, 1830. Probably on the Cornwall side of the Tamar.

No subsequent record.]

FRAGARIA, *L.*

228. F. vesca, *L.* *Wild Strawberry ; Hedge Strawberry.*

Native ; in woods and on banks. Very common. March to June, and scattered flowers later. Area general.

Extends over the enclosed and wooded country. Some of the older British writers on plants mention an extraordinary monstrosity of this species, under the name of the 'Plymouth strawberry.' Dr. Masters, in his *Vegetable Teratology*, when treating of chloranthy, says in a note : "As considerable interest attaches to the 'Plymouth strawberry,' and very little is known of it in this country, or on the Continent, the author gladly avails himself of this opportunity of inserting an account of it, for which he is indebted to the kindness of Dr. Robert Hogg : 'The Plymouth strawberry (*F. vesca fructu hispido*) is a sort of botanical dodo upon which many have written, and which few have seen. Many years have elapsed since it was first discovered ; and although a century and a half have passed since there was any evidence of its existence, it serves still as an illustration for students in morphology of one of those strange abnormal structures with which the vegetable kingdom abounds.'

"It is to old John Tradescant we are indebted for the earliest record of this plant. Johnson in his edition of *Gerarde* says : "Mr. John Tradescant hath told me that he was the first that took notice of this Strawberry, and that in a woman's garden at Plimoth, whose daughter had gathered and set the roots in her garden instead of the common strawberry : but she finding the fruit not to answer her expectation intended to throw it away : which labor he spared her, in taking it and bestowing it among the lovers of such varieties, in whose gardens it is yet preserved." *John. Ger.* p. 998. Doubtless one of those 'lovers' was John Parkinson, who, in the year 1629, thus wrote concerning it : "One strawberry more I promised to show you, which, although it be a wilde kinde, and of no use for meate, yet I would not let this discourse passe, without giving you the knowledge of it. It is in leafe much like unto the ordinary, but differeth in that the flower, if it have any, is greene, or rather it beareth a small head of greene leaves, many set thicke together

like unto a double ruffe, in the midst whereof standeth the fruit, which when it is ripe, sheweth to be soft and somewhat reddish, like unto a strawberry, but with many small harmlesse prickles on them, which may be eaten and chewed in the mouth without any manner of offence, and is somewhat pleasant like a strawberry : it is no great bearer, but those it doth beare, are set at the topes of the stalks close together, pleasant to behold, and fit for a gentlewoman to weare on her arme, &c., as a raritie in stead of a flower." *Parad. terr.* p. 528." *Mast. Veget. Terat.* pp. 276, 277, note. Of it Ray says : "Pro lusu potius naturæ habeo quum pro specie distincta." *Synop. Stir. Brit.* p. 90, 1690.

F. elatior, Ehrh. What seems this occurs on a bank by a stream below Woodlands, St. Budeaux (District III.), near the site of an old house ; also formerly near St. Mellion, in a similarly more than suspicious situation.

RUBUS, L.

229. R. Idæus, L. *The Raspberry.*

Native ; in woods, and bushy or rocky places. Rather rare. May, June.

- c. I. In a wooded spot by the Torpoint and Liskeard Road, between Polbathick and the cross road to Hessenford.
- II. Near Callington, by the road to Tavistock, and on a hedge-bank near Dupath. Hedge near Calstock Rectory House.
- d. III. Budshead, by the road to Tamerton Foliot. Near Inchers and Bickham. In a sandy and bushy spot by the Tavy between Lophill and Denham Bridge ; the variety with amber-coloured fruit. Bank near Denham Bridge. Wood above the Tamar at Newbridge.
- IV. Banks of the Cad (Plym), opposite to the Dowerstone ; *Keys, Fl.* ii. 137. Derriford. Fancy Vale. On a furzy hedge-bank below Hemerdon Ball ; also by the lane behind Hemerdon House. Valley of the Mew, between Hoo Meavy and Meavy village. Rumple ; thicket near Hay farm-house by the Dartmoor tramway at Darklake, near the house, probably derived from gardens, as also may have been the case at many of the other stations.
- V. In the woods on the borders of Dartmoor ; *Polwh. Hist. Devonsh.* i. 89. On the border of an enclosure below Hanger Down, and elsewhere near Blachford. Wood at Torr, near Yealmpton. By the lane to Hitchcombe farm-house from Mount Pleasant.
- VI. Hedge by the turnpike road near Ermington village.

This appears to be truly wild in some places, as at Hemerdon Ball, Fancy Vale, &c., but it springs up so readily from the scattered seeds of cultivated bushes that it is often impossible to say if it is indigenous or otherwise at a certain place.

230. *R. suberectus*, Anders. *Suberect Bramble.*

Native ; in woods, copses, and bushy waste spots. Rather rare.

End of May, June.

- c. I. Sheviock Wood. Near Clapper Bridge.
- II. By the path to Morwellham Ferry from Calstock Church.
- d. III. Among furze below Woodlands on the right of the road from St. Budeaux to Tamerton Foliot. Warleigh Wood. Near Beer Alston. Denham Bridge. Copse near Horrabridge, on the right of the road thence to Tavistock.
- IV. Plym valley ; *Bab. Brit. Rubi*, 53 ; occurs in several places in the woods in or about this valley between Plym and Bickleigh Bridges. Derriford. Copse on the side of Shaugh Hill.
- V. On the bushy flat below Cholwichtown. Between Cornwood and Dartmoor.
- VI. Wood at Ivybridge, very near the railway station. Erme valley, between Ivybridge and Harford.

The Plym valley plant confirmed as *R. suberectus* in *British Rubi* was sent by me for Baker's collection. Nearly all the rubi of the neighbourhood of Plymouth that have their names certified to by Professor Babington in that work were seen by him in the same collection. Some of the stations that follow here under species of this genus were recorded by me in an article in *Jour. Bot.* vii. 33-40.

This species flowers early, and quickly passes out of blossom.

First record : *Babington*, 1869.

231. *Rubus fissus*, Lindl. *Lesser Suberect Bramble.*

Native ; on commons, waste bushy spots, and rough pastures.

Locally common. June to September.

- c. I. Pillaton Down, and elsewhere near Clapper Bridge
- II. Valley below Hingston Down, near Harrowbarrow.
- d. III. Buckland Monachorum Down (part of Roborough).
- IV. Hillside, Common Wood, Egg Buckland. Yannaton Down.
- V. Crownhill Down ; specimens hence somewhat like *plicatus* ; but keeping in view the remarks in *British Rubi*, at page 56, they rather belong to *fissus*. Green between Worthill and Westlake. Border of Dartmoor near Cornwood.
- VI. Ivybridge ; *Bab. Brit. Rubi*, 57 (followed by *N.* instead of *S. Devon.*)

Professor Babington has had a specimen from Yannaton, and confirmed the name of *fissus* for it, as also for a plant from a "bushy pasture near Bickleigh Down," which is, I consider, identical with *R. opacus*, Focke. It has the flowering shoot much more hairy than in our ordinary *fissus*, and larger ovate petals. It is an ericetal plant, occurring plentifully in parts of Districts iv. and v., also in iii., and very probably in the others .

likewise. Some years ago I sent specimens to Dr. Focke, and he himself supported my view as to its identity with his *R. opacus*. It certainly belongs to the *Suberecti*, and unites better with *R. fissus* than with any other plant of the group.

The typical *Rubus fissus* is rather frequent on our open commons, occurring sometimes in wild, exposed places.

232. R. plicatus, W. and N. Plaited-leaved Bramble.

Native; in peaty pastures and bushy places. Rare. June to August.

- c. I. Wood between St. Mellion and Pillaton.
- d. IV. Valley of Tory Brook, Dartmoor. "M. Genevier identifies a plant from Tory on Dartmoor with the *R. hamulosus*, Müll. It has an abundance of strong declining (and some deflexed) prickles on its stem, and its panicle is furnished with rather numerous strong hooked prickles; but in other respects I do not see any characters to distinguish it from *R. plicatus*." *Bab. Brit. Rubi*, 65. Waste spot, Derriford, Egg Buckland.
- VI. Damp pasture in the Erme valley between Ivybridge and Hartford. Rough pasture below Hanger Down.

233. R. affinis, W. and N. Intermediate Bramble.

Native; in damp spots on commons, in low bushy pastures and copse swamps. Rather common. June to September.

- c. I. Between Hessenford and Seaton. Between Pillaton village and Clapper Bridge. Bushy pasture below Viverdon Down.
- II. Valley of the Tamar near Calstock. In a low clayey field near Hatt.
- d. III. Waste bushy spot below the fort near Budshead, on the right of the road from St. Budeaux to Tamerton Foliot. Beer Ferrers, by a road leading towards Lophill, and in the wood above the ferry to Calstock. Buckland Monachorum Down. Sampford Spiney, near the church.
- IV. Near Plymouth; *Bab. Brit. Rubi*. 73. It occurs on the right bank of the Plym, near Riverford, and at Common Wood. Bickleigh. Sheepstor.
- V. Valley of the Yealm, Dartmoor, and by Broadall Brook.

Dr. Focke considered specimens that I sent him of the plants at Riverford and Buckland Monachorum Down as representing quite typical *affinis*, exactly the same as that common in the hedges near Minden.

R. affinis, unlike the other Brambles of the group *Suberecti*, will occasionally have a few barren shoots rooting at the end. The plant from between Pillaton and Clapper Bridge recedes from the type towards *plicatus*; and there are others, as those from 'below Viverdon Down'

and 'near Hatt,' which approach a small form of *rhamnifolius*. Frequently *affinis* has petals of a remarkably bright pink. I have no record of it for District vi., but it is almost certain to occur in some of the rough moory ground near Ivybridge.

234. R. Lindleianus, Lees. *Lindley's Bramble.*

Native; in hedges and thickets. Common, and widely distributed. July, August.

- c. I. Between Polbathick and the cross road to Hessenford.
- II. Hedges near Tregantle and Millbrook. Near Antony village, in a thicket near the pound, and also by the Wolsdon Road. Between Penters Cross and Wheatland. Near Gunnislake, by the road to Callington.
- d. III. Cemetery Road, Plymouth, a few bushes, between Pennycomequick and the entrance to the Cemetery, 1879. Vale between Weston Mills and Honicknowle; not typical. Plymouth and Saltash Road, near the third milestone from Plymouth. About St. Budeaux and Tamerton Foliot. Between Gunnislake and Tavistock.
- IV. Hedge on the right of the road from Saltram Lodge to Underwood. On a bushy bank on the left as you descend to Plymbridge from Plympton. Hedge by the Plymouth and Tavistock Road, near the fourth milestone from Plymouth. Common Wood, Egg Buckland. By Goosewell and Forder Hills, in the same parish, but here not typical, the plants having the terminal leaflets of the barren stems roundly ovate and all the leaflets regularly and finely serrate.
- V. Between Noss and Yealm Ferry. Near Lambside. Near Puslinch, as you ascend the hill towards Lolesbury. Hedge at Wiverton. Hedges by the turnpike road between Yealm Bridge and Fleet.
- VI. Hedge near Orcherton.

Quite the typical *Lindleianus* at most of the preceding stations; having long cylindrical panicle with prickly, interlaced branches and pure white blossoms. A well-marked Bramble, easy to recognize.

We have a Bramble very common about Plymouth, certainly of the *Rhamnifolii* group, and allied to *Lindleianus*, which will, I believe, have to be described as a new species, should it not be found to be identical with some named Continental one.

235. R. rhamnifolius, W. and N. *Buckthorn-leaved Bramble.*

Native; in hedges and thickets. Rather common. July, August.

- c. I. Near Clapper Bridge: very similar to the form growing at Saltash Passage.

- II. Between Torpoint and St. Johns, on the border of the third field from Hay Lane. Antony.
- d. III. Waste spot very near Saltash Passage, by the road to Plymouth ; given by Babington, in *British Rubi*, as 'Saltash.' To the plant there the following has reference : "M. Genevier states that Mr. Briggs's Devonshire specimens are the *R. argentatus* (Müll), and says, 'cette plante est très éloignée du *R. rhamnifolius* (W. and N.).' An examination of the specimens had previously led me to the same conclusion, except that I consider them to be undistinguishable from *R. rhamnifolius*." *Brit. Rubi*, 87. Warleigh Wood.
- IV. Bloomballs, Rumble and Riverford, Egg Buckland. Mount Batten. Limestone rubble bank on the Oreston side of Pomphlet inlet.
- V. Between Westcombe farm-house and the village of Newton Ferrers. Waste spot near Stretchley farm-house.

Advanced specimens of *affinis* are when dried liable to be mistaken for this species. I now consider the plant from 'below Hatt' to be *affinis*, though recorded by me as *rhamnifolius* in *Jour. Bot.* vii. 34.

236. *R. incurvatus*, Bab. *Incurved-leaved Bramble.*

Native ; on hedge-banks, and in open waste spots. Rather common ? July, August.

- c. I. Hedge between Port Wrinkle and St. Germans Beacon.
 II. Border of a field near the lodge by Antony grounds.
 d. III. Plymouth and Tavistock Road between Knackersknowle and Roborough.
 IV. Saltram embankment.
 V. Near Slade, Cornwood.
 VI. Erme valley, near Ivybridge.

The plants at the two first stations have been confirmed as *incurvatus* by the greatest British authority on the genus, Professor Babington ; and Plymouth examples agree well with '*incurvatus*' from Brodick, Arran, collected by Dr. Boswell.

This bramble is probably much commoner than the above scanty list of stations would seem to indicate.

237. *R. imbricatus*, Hort. *Imbricated-leaved Bramble.*

Native ; in damp bushy spots. Rare ? July to September.

- d. IV. Between the village of Colebrook, Plympton St. Mary, and Newnham Lodge. Vale on Coleridge estate, Egg Buckland.
 VI. Between Ivybridge and Ermington.

A comparison of specimens of *R. imbricatus* from Redbrook, Gloucestershire, with those of a Plymouth bramble that I have known for several years past, but was long unable to name, has convinced me of

the identity of this latter with *imbricatus*. It moreover agrees well with the description of *imbricatus* in *British Rubi*. The Redbrook specimens were collected in September, 1874, by the Rev. A. Ley and Mr. B. M. Watkins, and were communicated by the former to the Bot. Exchange Club.

238. R. ramosus, Blox. *Jour. Bot.* ix. 330–332.

Native ; in open spots in or about woods, in waste bushy places and in hedges. Common, and very widely distributed. July, August.

- c. I. Between the coast and Tregunnus. Wackar, near Antony. Wivelscombe. Polbathick, Hessenford, and Tideford, St. Germans. Pillaton.
- II. Near Millbrook. By the road from St. Johns village to Trelay. Near Gunnislake.
- d. III. One or two bushes in a hedge by the road to the Cemetery, Plymouth. Woodlands. Warleigh, Blaxton, &c., Tamerton Foliot. Denham Bridge. Beer Ferrers. About Tavistock. Near Huckworthy Bridge.
- IV. Saltram embankment. Between Billacombe and Elburton. Between Staddiscombe and Plymstock. Derriford, Shalaford, Leigham, &c., Egg Buckland. Plym valley. Newnham. Hemerdon. Near Bickleigh.
- V. In rough, uncultivated ground near Warren Point, Wembury, and elsewhere in this parish. Near Noss. Brixton Torr. Puslinch. Blachford, and near Slade, Cornwood. On the flat below Pen Beacon.
- VI. Between Kingston and Ringmore. Efford, Holbeton. Modbury. Ivybridge.

This well-marked Rubus was apparently undescribed before 1871, when I inserted a description of it in the November number of the *Journal of Botany*. I had previously had a correspondence respecting it with the late Rev. Andrew Bloxam, a great authority on the British Rubi, who considered it identical with a Warwickshire Bramble on which he had bestowed the MS. name of *ramosus*. This I therefore adopted for the Plymouth plant in my published description. Professor Babington, in the last edition of his well-known *Manual*, has placed *ramosus* as a variety of *imbricatus*, and has made some remarks on the both in his valuable ‘Notes on Rubi,’ inserted in the *Journal of Botany* for 1878. (See vol. vii. N.S. 86.) I, however, still venture to think that the two are quite distinct.

239. R. discolor, W. and N. *Common Bramble.*

Native ; in hedges and thickets in open situations. Very common. July to October. Area general.

The commonest hedge-row Bramble, occurring close to the town of Plymouth ; and, looking at the country generally, probably the most frequent species, though in certain wooded and moory tracts less plentiful than some others. The flowers are sometimes very handsome, from the petals being of a beautiful bright pink. The fruit is produced until frost sets in. It differs considerably in taste from that of most, if not from that of all our other species : being comparatively dry and poorly flavoured. A curious Bramble, with very deeply cut leaves, which was probably either a variety of this or of *R. rhamnifolius*, grew some years ago on a bank at the head of Crown Hill, Knackersknowle, but it has since been destroyed by alterations consequent on the erection of Crown Hill Fort. It was mentioned as '*Rubus laciniatus*, Willd.', by the late Mr. Alexander Irvine, in *Phytol.* v. N.S. 381, I having sent him a specimen from the locality. I have now reason to suspect that this Bramble was originally introduced by a nurseryman, who at one time rented a plot of ground adjoining the bank where it occurred.

Some forms of *R. discolor* come very near *R. leucostachys*, Sm.

240. R. thyrsoideus, Wimm. Thrysus-flowered Bramble.

Native ; in hedges and thickets. Rare. July, August.

- c. I. Hedge by the turnpike road at Sheviock. The plant here differs greatly from the typical *thyrsoideus*, agreeing well with a specimen from Mr. Jas. Bagnall, collected at Tardebig, Worcestershire, labelled *thyrsoideus*, with the note, "Professor Babington says, 'very near the *macroacanthus* form of the Rev. A. Bloxam.'"
- II. Kingsmill. This agrees fairly with a specimen of the *thyrsoideus* 'cult. Hort. Kew.'
- d. III. Waste spot by the St. Budeaux and Tamerton Foliot Road, near Budshead. Between Knackersknowle and Tamerton Foliot. Hedge between Tamerton Foliot and Roborough Down : a form with remarkably narrow-pointed leaflets, differing greatly from the plants at the other stations and many labelled *thyrsoideus* by British botanists. Between Mutley and Burleigh.
- V. Cornwood, by a hedge very near the railway station.

It is not without some hesitation that I have assigned to *thyrsoideus* all the plants referred to above. The one from 'hedge between Tamerton Foliot and Roborough Down' I forwarded to Dr. Focke some years ago, and he pronounced it 'really' the German *thyrsoideus*. It agrees capitally with a Rubus from Wirtgen (*Herb. Rub. Rhenan.*, ed. 2. fasc. iii.), in Baker's collection, labelled '*R. hypomallos*, Müll. and Wirtg. *Herb. Rubor.* ed. 1 fasc. v. No. 121. Dem *R. coarctus*, Müll (*R. thyrsoideus*, Wimm.).' The late Rev. A. Bloxam would not, however, allow that the Plymouth plant is *thyrsoideus*. Comparing it with that from District I., the differences are certainly startling.

241. R. leucostachys, Sm. Long-clustered Bramble.

- Native ; in waste spots and hedges. Common. July, August.
- c. I. Between Tregantle and Crafhole. Downderry. Between Tideford Cross and Killa. Landrake. Seaton valley. Sheviock.
 - II. Above Whitsand Bay. Wood between Cawsand and Penlee Point. St. Johns. About Torpoint. Saltash and Callington Road, near Callington. Near Millbrook.
 - d. III. Hedge by the first path-field towards Prospect from Pennycomequick, Plymouth. Between Mutley and Burleigh. About St. Budeaux. In a quarry by the Knackersknowle and Tamerton Foliot Road near the old mine workings, and hedge near Axter Gate, Roborough ; typical *leucostachys*. Warleigh, &c., Tamerton Foliot. Between Tavistock and Newbridge.
 - IV. Crabtree. Near Rumble Quarry and Derriford. Egg Buckland.
 - V. Lolesbury, Newton Ferrers.
 - VI. Flete.

The station 'near Millbrook' has reference to a curious form, differing remarkably from the type in having only short scattered hairs on the barren stem, with fewer prickles ; terminal and intermediate leaflets with longer points. The panicle with fewer prickles on the upper branches, but clothed with the usual very stiff hairs.

I have combined the type and var. *b. vestitus*. Dr. Focke attached this latter name to a plant which Bloxam regarded as '*leucostachys*', and Baker as '*good leucostachys*'.

242. ? R. hirtifolius, Müll. and Wirtg. (Wirtg. Herb. Rub. ed. 1, No. 173.) R. pyramidalis, Kalten.

- Native ; in waste bushy or heathy spots and hedges. Rare and local.
- c. I. Wood near Clapper Bridge, and on the border of Pillaton Down in the same neighbourhood.
 - II. In a waste spot near Callington, by the road to Saltash ; also on a hedge-bank near Dupath In two widely-separated spots between Callington and Newbridge.
 - d. IV. On a hedge-bank and in a waste spot by a field on Derriford estate, adjoining the Plymbridge Road, near Fancy ; also by the road above Blunts Hill, on the same estate. Coleridge, Egg Buckland ; on the edge of the older workings of the elvan quarry.

Hitherto undescribed in any work on British botany. Professor Babington has drawn up the following description from specimens that I forwarded from this neighbourhood, and kindly permits me to insert it here : " *R. pyramidalis*, Kalten. Stem arcuate-prostrate, angular, pilose ; prickles nearly equal, small, declining from a dilated compressed base. Leaves quinate. Leaflets flat, thin, pale green and pilose

on the veins beneath, irregularly subpatent dentate-serrate; terminal leaflet obovate-acuminate. Panicle long, narrow pyramidal, setose; its branches few-flowered erect-patent, its prickles few, slender. Sepals greenish-tomentose with paler margins externally. Many of the panicle branches one-flowered. Sepals ovate, leaf pointed. Petals oblanceolate. Stamens exceeding the styles." The petals are pure white.

A comparison of the Plymouth plant some years ago with one labelled *hirtifolius*, Wirtg., in Mr. Baker's collection, satisfied me as to the identity of the two. I am much pleased to find Professor Babington supporting this opinion by saying in a letter to me: "Your plant is very like *hirtifolius* (Wirtg. *Rub.* ed. 1, 173), which is, I suppose, only a subordinate form of *pyramidalis* (Kaltenb., Focke) [a name published four years before my *pyramidalis*]. It is also *umbraticus*, Müll., which is a later name. I suppose that it must bear Kaltenbach's name, and my *pyramidalis* must take the ugly one of Lees—*longithyrsiger*. Your plant will take its place close to *leucostachys* as probably a new species of our flora. I have what seems to be the same from Alborne, Sussex, and Apse Castle Wood, Isle of Wight. Focke's specimens and others are not quite so naked under the leaves as our plants, but they have hairs only there."

243. *R. Salteri*, Bab.; *b. calvatus*, Blox.

Native; in hedges, and other bushy places. Rather rare, and decidedly local. July, August.

- c. I. St. Mellion, in hedges by the turnpike road.
- II. Hedge at Carkeel, Botus Fleming. By the Tamar near Cotehele. In plenty near Callington. By the Callington and Tavistock Road, near Harrowbarrow.
- d. III. Saltash Passage. Tamerton Foliot, in Southaway Lane, near Axter Gate and towards Blaxton. In abundance in hedges near Beer Alston, extending down to the Tamar. Between Tavistock and Newbridge.
- IV. Near Marsh House, Crabtree. Plymbridge Road, Derriford, Coleridge, &c., Egg Buckland. Near Bickleigh.

The late Rev. A. Bloxam himself named a specimen that I sent him *calvatus*. Last summer Mr. J. E. Bagnall kindly favoured me with fresh specimens from Appleby Road, Twycross, "Mr. Bloxam's old station," and these agree so well with local ones collected near Harrowbarrow, that but for some appearance of felt on the leaves of the barren stem of the latter, the whole might have been produced by one bush.

What M. Genevier regards as *calvatus*, Blox., is evidently the same as the Plymouth plant, judging from his French specimens in Baker's *Herbarium*. I consider *R. stenoacanthus*, Lef., and P. J. M., of Wirtg. *Herb. Plant. Select. Flor. Rhen.* 1065, the *R. calvatus* of Bloxam.

244. **R. villicaulis**, W. and N. *Pilose-stemmed Bramble.*

Native; in woods, hedges, and bushy waste spots. Common and widely distributed.

- c. I. Seaton; a form approaching *leucostachys*.
- d. III. Woodlands. Warleigh Wood. Blaxton. Near Roborough. Beer Ferrers.
- IV. Between Hooe and Staddon. Plym Valley, at Rumble, &c. Common Wood. Plymbridge Road, between Elfordleigh and Shaugh.
- V. Hedge-bank near Weston Mill, in a lane overlooking the left bank of the Yealm. Broadall Vale, between Cornwood and Dartmoor.
- VI. Modbury. Ivybridge.

At many of the stations named the plant represents what Dr. Focke informs me is the true *R. villicaulis* of Koehler, common in the east and north of Germany, in Denmark, &c. It has a stiffer, more angular and more prickly barren stem than our ordinary *villicaulis*: differs likewise in having leaves conspicuously waved at the edges, with glossy surface and few hairs above; more compact and more prickly panicle, and white or light pinkish petals. Some years ago I sent Professor Babington a specimen, and he considered it identical with the *sylvaticus* of Leighton, from Almond Park.

The Bramble which I gave as typical *Salteri* in my article on Plymouth Rubi in the *Journal of Botany* (vii. 36) seems not to be the true plant, and it is not *calvatus*. It may be a variety of *villicaulis*. It agrees in many respects with Continental specimens of a plant labelled *R. sylvaticus*, W. and N., sent me by Dr. Focke. I am disposed to think it this. I find *R. sylvaticus* placed by Boreau (*Fl. du Centre de la France*) between *R. villicaulis* and *R. calvatus*, a position which would seem particularly suitable for the Plymouth plant. In the *villicaulis* direction it comes nearest the form or variety considered by Focke to be the true plant of Koehler. Its plentiful occurrence about Plymouth and distribution through all the districts have made me very familiar with it.

b. adscitus, G. Genev. *Mem. Soc. M. and L.* viii. 88. *Jour. Bot.* ix. 366–68.

In hedges, the borders of woods, and other bushy places. Very common.

One of our most abundant and widely-distributed brambles, extending from bushy places above the coast to the border of Dartmoor.

Through an examination in 1871 of some Continental specimens of *R. adscitus* from M. Genevier himself, contained in Baker's *Herbarium*, I was enabled in the *Journal of Botany* for December of that year to positively assert the identity of it and the Plymouth plant. So similar

did I find the two, that I had only to translate M. Genevier's description of *R. adscitus*, contained in his *Essai Monographique sur les Rubus du bassin de la Loire*, to serve for an excellent one of the Plymouth bramble. Babington now thinks *R. derasus*, Müll., different from *adscitus*. (See *Jour. Bot.* vii. N.S. 115.) In deference to his view I place *adscitus* as a variety under *villicaulis*, but not without considerable doubt as to the correctness of this arrangement.

245. *R. macrophyllus*, Weihe. Large-leaved Bramble.

Native. July, August.

a. umbrosus, Arrh.

In hedges, waste spots, and on commons. Common, and very widely distributed.

- c. I. Between Port Wrinkle and St. Germans Beacon.
- II. Kingsand, and between Millbrook and Cremyll. Wood between Cawsand and Penlee Point. Between Trevol and St. Johns, in the vale above the arm of the 'lake.' Combe, near Saltash. Callington.
- d. III. Near the Devonport Workhouse. Between Swilly and Weston Mills. About Pennycross and St. Budeaux.
- IV. Saltram embankment, near the boat-house. Between Plympton and Plymbridge. By the tramway at Common Wood, &c., Egg Buckland. Hedge-banks between Elfordleigh and Shaugh. Near Sheepstor.
- V. Wembury. Near the railway bridge between Fursdon and Venton. Between Cornwood and Dartmoor.
- VI. Kingston. Flete. By the roadway to a farm-house below Hanger Down.

Most variable as regards the size and shape of its leaflets. This is the plant which I named *R. carpinifolius* in *Jour. Bot.* vii. 37, in accordance with the view of the late Rev. A. Bloxam.

b. macrophyllus, W. and N., and c. *Schlectendalii*.

Hedges and bushy places. Rather rare and local.

- c. II. Calstock (*Schlectendalii*); *Bab. Brit. Rubi*, 157. Hedge, St. Johns. Hedge by Hay Lane, near Torpoint; named *macrophyllus* by Babington.
- d. III. Waste spot near Bull Point, very similar to the plants occurring at Plympton, and near Elburton. Bank by the road from Knackersknowle to Tamerton Foliot; considered '*macrophyllus*' by both Bloxam and Baker. Hedge near Porsham, Tamerton Foliot, agreeing well with *R. Schlectendalii* from Dr. Focke, collected by Banning.

IV. Elburton (*Schlechtendalii*) ; *Bab. Brit. Rubi*, 157 ; by the Plymouth and Totnes Road near that village, at four miles from Plymouth. The form here seems to be *R. piletostachys*, G. Genev., judging from specimens of this in Baker's collection. Plympton.

V. Spriddlestone, Brixton ; agreeing well with the Bull Point form except in having more aciculi on the panicle. So many are developed, that the Rev. A. Bloxam named a specimen '*Radula*'.

e. glabratus.

Rare and local.

D. IV. In the strip of plantation between the Tavistock Railway line and the first marsh below Plymbridge. Some years ago Babington wrote, on receiving a specimen : "I think that it is *macrophyllus*, *e. glabratus*, with leaves more nearly dentate than usual." A Bramble I believe to be the same occurs at the stations that follow : between Plymbridge and Riverford, at Rumble, and between Common Wood and Thornbury, Egg Buckland. Sheepstor.

V. Between Cornwood and Dartmoor.

This seems *R. Banningii*, Focke, judging from specimens collected at Minden and elsewhere by Banning himself, for which I am indebted to Dr. Focke.

I have been obliged to combine the vars. b. and c. from inability to divide between them the plants occurring at the stations named. I think the var. e. may prove to be distinct from the others placed under the aggregate *macrophyllus*.

246. *R. mucronulatus*, Bor. *Cuspidate-leaved Bramble.*

Native ; in hedges and other bushy places. Rare ? July, August.

c. I. By the Crafthole and Looe Road near Port Wrinkle.
II. Hedges below St. Johns village, near the 'Lake' ; a form with the leaves of barren stem ternate.
D. III. Near Plymouth ; *Bab. Brit. Rubi*, 162. Hedge-banks between Roborough and Lophill, and by the Plymouth and Tavistock Road between Down House and Roborough village. South-away Lane, Tamerton Foliot.

IV. Plymbridge Road, near Fancy. Rumble, Plym Valley ; a form with long, loose, narrow, panicle. Babington says it is similar to the plant from Linlithgowshire, which he has put under *mucronulatus*. (*Brit. Rubi*, 162.)

V. Bushy hillside, Wembury, near Yealm Ferry.

A Bramble from near Botus Fleming, in District II., Babington says is *R. amphichloros*, Müll. In *Brit. Rubi* he combined this with *mucronu-*

latus, but, judging from his remarks in *Jour. Bot.* vii. N.S. 115, he would, I conclude, now rather put it under the aggregate *macrophyllus*.

247. *R. Sprengelii*, Weihe.

a. Borreri, Salter.

Native; on hedge-banks, commons, and bushy waste spots.

Rather common. July, August.

- c. I. In bushy spots in the vicinity of Rouse farm-house near Pillaton.
- d. III. Hedge by the Devonport and Manadon Road near Pounds. Vale between Whitleigh and Woodlands. Near Knackersknowle and Roborough. Near Beer Alston, and by the road thence to Tavistock. A much more prickly and setose form, with leaflets remarkably dentate, in a bushy waste spot below Woodlands, near the St. Budeaux and Tamerton Foliot Road. Plants very similar to the last below a small copse between Tavistock and Horrabridge, and in a hedge near Huckworthy Bridge.
- IV. By Plymbridge Road, near Rock; also in the vale below Rock House, and by the Dartmoor tramway at Shalaford, Egg Buckland. Coleridge Lane, near Knackersknowle. Derriford. A plant considerably different from the type, occurs in plenty in and about the Plym valley between Bickleigh and Plym Bridges. It grows also at Derriford, by Plymbridge Road, between Elfordleigh and Shaugh, near Bickleigh, on Ringmore Down and elsewhere near Sheepstor.
- V. By a tributary of the Yealm very near the bridge above Dala-more; also in other spots on the border of Dartmoor near Cornwood.

Quite typical *Borreri* seems not to occur anywhere about Plymouth, and the two forms here placed under *Borreri* differ considerably from each other. The one that occurs so plentifully in the Plym district ought, I think, to be distinguished by a name, and might be called var. *dentatifolius*. Extreme forms of it differ greatly in appearance from the type, having very large compound panicles with longer and less uniform prickles, intermixed with numerous aciculi. The leaves are very coarsely dentate, giving a marked feature to the plant. The hairs of the barren stem are sometimes so few as to give it the appearance of belonging to one of the *Rhamnifolii*. Its prickles are long, sharp, and slightly declining. The petals are usually white, as they are also in our other Plymouth form of *Borreri*. Careful observation of this plant for some years past, and the discovery of forms somewhat intermediate between it and typical *Borreri*, have led me to place it under this Bramble as a variety. It is very near *R. melanoxylon*, Müll. et Wirtg., *Herb. Rubor.* No. 181, placed by Wirtgen with the *Spectabiles*. It seems exactly intermediate between this *melanoxylon* and typical *Borreri*.

248. R. Bloxamii, Lees. *Bloxam's Bramble.*

Native; in hedges and waste bushy spots. Rare and local. July, August.

- c. II. Saltash, very near the town, by the Lower Callington Road.
- d. III. In the vale near Combe between Weston Mills and Honicknowle, and at the latter place.
- IV. Crabtree; *Bab. Brit. Rubi*, 172. By a roadside near Marsh House, Crabtree; between Marsh Mills and Plympton St. Mary Church; at Newnham, Elfordleigh, and Hemerdon. Rumble, Bickleigh Vale, and elsewhere in or about the Plym valley between Long and Bickleigh Bridges. Saltram.

The Plymouth plant is not typical *Bloxamii*, and Babington's remarks that follow are applicable to the examples at all the stations. I would observe, however, that a specimen of the Crabtree plant was named *Bloxamii* by the late Rev. A. Bloxam. Babington observes, "Of course this plant from Marsh Mills (sent to *Bot. Ex. Club*) is not typical. A specimen of the same from Crabtree is marked in my *Herb.* as authentic *R. rhenanus*, Müll., on the authority of Genevier. I cannot find any description of *rhenanus*, and have no foreign specimen of it. It differs in several respects from true *R. Bloxamii*, of which I have a good series before me from Lees and Bloxam, by its much more hairy stem—indeed, hairiness throughout—but especially by its beautiful pyramidal, open, nearly naked panicle, with long corymbose, few-flowered branches, which are quite simple in their lower part." *Rep. Bot. Ex. Club*, 1877–78, 6.

249. R. Hystrix, Weihe. *Hedgehog Bramble.*

Native; in woods and bushy places. Rather common. July, August.

- c. I. Between Polscove and Polbathick. St. Mellion.
- II. Between Penters Cross and Landulph: possibly *rosaceus*.
- d. III. Tamerton Foliot; *Bab. Brit. Rubi*, 176. Between Knackersknowle and Tamerton Foliot, near Looseleigh. Woodlands, in a waste spot on the right of the road from St. Budeaux to Tamerton Foliot; not typical.
- IV. Plym Valley; between Longbridge and Plymbridge and also between the latter place and Riverford; and in Bickleigh Vale.

250. R. rosaceus, Weihe. *Rose-flowered Bramble.*

Native; in wooded spots. Very rare? July, August.

- c. I. Lane near Notter.
- d. III. Erme valley, between Ivybridge and Harford, agreeing well with a plant named *rosaceus* by Baker, from Sowerby, Yorkshire.

251. ? **R. scaber**, Weihe. *Rough Bramble.*

Native ; in hedges. Very rare and local. July, August.

d. III. In hedges about St. Budeaux and Honicknowle.

I have some doubt about this : it is certainly not typical *scaber*, and possibly may prove to be another species.

252. **R. rufis**, Weihe. *Coarse Bramble.*

Native ; in bushy spots. Very rare. July, August.

- c. I. By the Torpoint and Liskeard turnpike road at Polbathick : not typical *rufis*, but nearer it, as represented by specimens of the plant cultivated at Kew, than is the Bramble at the following station, considered *rufis* by the Rev. A. Bloxam.
- d. III. Hedge between Beer Ferrers and Morwellham. Mr. Baker considers this intermediate between *Radula* and *rufis*, and says he has seen something very like it in Yorkshire.

253. **R. Radula**, Weihe. *File-stemmed Bramble.*

Native ; on banks, in hedges, thickets and waste places. Common, and very widely diffused. July, August.

- c. I. Hedge by the old road between Polscove and Polbathick. By Pillaton Down, near the road thence to Clapper Bridge.
- II. Between Penlee Point and Rame Head. Kingsmill, by the road to Calloget. Fullaford, and elsewhere near Callington. Near Gunnislake.
- d. III. Ham Valley, and Weston Mills. Plymouth and Saltash Road. Blaxton. Plymouth and Tavistock Road, about four miles from Plymouth ; also near the bridge over the Walkham, on the same road. Between Tavistock and Newbridge.
- IV. Pamphlet and other places near Plymouth ; *Bab. Brit. Rubi*, 197. Furze Hill, between Plymouth and Lipson. Crabtree, by the tram-road. On limestone rubble by the Oreston Quarries. Near Hay farm-house. Derriford.
- V. Plymouth and Totnes Road, near the fourth milestone from Plymouth.
- VI. Wood by the Erme near Pamflete.

This has generally fairly-marked characters by which it may be readily distinguished from our other species.

254. **R. Koehleri**, Weihe. *Koehler's Bramble.**a. Koehleri.*

Native ; in hedges and waste bushy spots. Rare and local.

- c. II. Hedge near St. Dominick. 'I think a form of *Koehleri*, var. *a.*' Babington in *B. E. Club Rep.* 1876, 13.
- d. III. Waste bushy spot near Woodlands, above the St. Budeaux and Tamerton Foliot Road.

IV. By the side of the Dartmoor tram-way at Common Wood, Egg Buckland. This agrees well with a specimen from Professor Areschoug, collected in Saxony, and labelled by him '*R. Koehleri*, Weihe, forma typica.' A less prickly plant, but one essentially the same, grows sparingly on a hedge-bank by the lane leading from Derriford into the Fancy and Plymbridge Road.

c. pallidus, Weihe.

In wooded spots.

- d. III. Hedge-bank near Newnham by the road to Colebrook, and elsewhere near Plympton.

Several doubtful Brambles growing about Plymouth may belong to the aggregate *Koehleri*. One of them agrees well with a Silesian specimen from Professor Areschoug labelled *R. apricus*, Wimm. It has also some points of resemblance to *R. Hystrix* and *R. rosaceus*.

255. *R. fusco-ater*, Weihe. Brownish-black Bramble.

Native; in hedges and waste bushy spots. Common, and widely distributed.

- c. II. Antony. Neighbourhood of Saltash. Near Gunnislake.
 d. III. Between Pounds and Pennycross Church. Manadon Hill. Honicknowle. Tamerton Foliot.
 IV. Crabtree. About Plympton. Between Plymstock and Knighton.
 V. Chittleburn, Brixton. Near Slade.

The common form occurring about Plymouth is, Mr. Baker says, identical with a plant of the North of England that he considers about intermediate between *fusco-ater*, as figured in the *Rubi Germanici*, and *macrophyllus*. A more hairy plant, with more compact panicle, occurs in considerable quantity at Common Wood and elsewhere on the right bank of the Plym, between Plymbridge and Bickleigh. It also grows at Bircham, Egg Buckland. Our ordinary form comes near *R. omalodontos*, Müll., but has the panicle less setose. It has sepals more decidedly reflexed than in the Common Wood plant, and perhaps the two should be separated.

b. *Briggsii*. Blox. *Jour. Bot.* vii. 33; *ibid.* vii. N.S. 175.
 Very rare.

- d. III. In waste ground near Woodlands, by the road from St. Budeaux to Tamerton Foliot; three or four patches.
 IV. In an old quarry at Rumble (perhaps now destroyed), and in a stony spot near the southern end of Bickleigh Vale.

The late Rev. A. Bloxam maintained that this was a distinct species, and described it in the *Journal of Botany* (vol. vii. 33), where a figure of it will be found, drawn from a specimen that I sent from District III.

I, however, prefer to consider it a variety of *fusco-ater*, as does Professor Babington. I regret the latter should have fallen into the error of supposing I had informed him that *Briggsii* is abundant near Plymouth. (*Brit. Rubi*, 215.) This is far from being the case. I fear it may now be extinct in District III. It comes nearer the form of *fusco-ater* found at Common Wood than to the one near Müller's *omalodontos*.

256. *R. diversifolius*, Lindl. Various-leaved Bramble.

Native ; in hedges and thickets. Rather common, and widely spread. July, August.

- c. I. In hedges by a road leading from Trematon village towards the Notter. Roadside near Polbathick.
- d. III. Hedge near Boldventure, by the old road from Plymouth to Saltash.
- IV. Forder Hill, Derriford, and Coleridge, Egg Buckland. Bottle Hill, near Newnham.
- V. About Brixton and Yealmpton. Sparingly between Lolesbury and Battisborough. Between Preston and Lambside. Between Yealm Bridge and Ermington. In hedges close to the line of G.W. railway between Chaddlewood and Cornwood, and elsewhere near the latter place.
- VI. In an exposed hedge on the high ground at Scotscombe, Kings-ton, above Bigbury Bay.

The white blossoms of this Bramble are large and handsome, and the light hue of its foliage is remarkable.

257. *R. mutabilis*, Genev. Bab. *Jour. Bot.* vii. N.S. 143, 44. *R. obliquus*, Blox. *ibid.* viii. 69, 70.

Native ; on hedge-banks, and in open waste spots. Rather rare ; in some localities abundant, but quite absent from a considerable portion of the area. July, August.

- d. III. Ham Valley, and in the vale near Combe by the road from Weston Mills to Honicknowle, and elsewhere near Honicknowle. Between Knackersknowle and Tamerton Foliot. By the Plymouth and Tavistock Road near the George Hotel, and in Southaway Lane. On the southern border of Roborough Down, and elsewhere near Roborough village. Near Horra-bridge. Between Denham Bridge and Calstock, 1874.
- IV. Lower Mount Gould and Efford Lane, near Plymouth. Crabtree. Common in hedges in the parish of Egg Buckland. Plentiful about the slate quarries in the Plym valley. Underwood, near Herdwick, Larkham Lane, between Plymbridge and Colebrook, and elsewhere about Plympton. Bickleigh. Between Newn-ham and Crownhill Down. Near Portivor.

V. Brixton Torr. Near Goodamoor, and between Lutton and Sparkwell.

This well-marked Bramble was considered by the late Rev. A. Bloxam identical with the *R. obliquus* of Wirtgen. (See *Jour. Bot.* viii. 69, 70.) An examination, however, of a specimen of the latter in Mr. Baker's *Herbarium* some years ago led me to a different conclusion. In the same collection of Rubi were specimens of *R. mutabilis*, Genev., and I found the Plymouth plant so much like these that I shortly after ventured to assert its identity with this species of M. Genevier, in an article contributed to the *Journal of Botany* (vol. ix. 368-70). I have since been much pleased to find Babington supporting my conclusions on the matter in his very valuable 'Notes on Rubi' in the same journal. (See vol. vii. N.S. 143, 44.) From them I extract his description of this Bramble : " *R. mutabilis*, Genev. ; stem arcuate-prostrate angular, sparingly pilose and setose ; prickles moderate unequal, sub-patent from a long compressed base ; aciculi strong, very unequal, mostly short ; leaflets rugose above, doubly and mostly lobate-dentate, very densely hairy or felted beneath ; terminal leaflet obovate-acuminate ; basal leaflets stalked, not imbricate ; panicle long narrow-pyramidal, leafy nearly to the top ; its branches and branchlets subcorymbose subpatent ; its rachis very prickly, aciculate, and setose ; its prickles very strong from large compressed bases, numerous ; sepals ovate felted, setose reflexed with rather leaf-like points." The petals are dull white ; filaments white ; styles greenish. The fruit is symmetrical, well-flavoured, and abundantly produced. The stems have often a glaucous bloom. Babington would place it between *R. diversifolius* and *Lejeunii*, the arrangement I have followed here.

258. R. Lejeunii, Weihe. Lejeune's Bramble.

Native ; in woods and on hedge-banks. Rare ? July, August.

- c. II. Gunnislake ; the plant occurring at this station I refer to *Lejeunii* with some doubt.
- d. III. Hedge near Derriford, by the lane leading into the Plymbridge and Fancy Road. Bank by the tramway at Fancy.
- V. Near the railway station, Cornwood, by the road thence to the village.

259. R. pyramidalis, Bab. Pyramidal-flowered Bramble.

Native ; in woods, thickets, and on shady hedge-banks. Common. July, August.

- c. I. Seaton Valley, between the coast and Hessenford. Near Polbathick. Near Notter Bridge. Between Wootton Cross and Pillaton Mill. Dupath, near Callington.
- II. In the plantation above the eastern shore of Millbrook 'Lake,' between the town and Anderton. Botus Fleming. Calstock.

- D. III. Ham Valley. Woodlands. About Tamerton Foliot. By the Plymouth and Tavistock Road near Horrabridge, and between Horrabridge and Plaster Down. Between Roborough Down and Buckland Monachorum. Wood opposite Maristow. On the left bank of the Tamar between Morwellham and the Weir Head.
- IV. Near Plymouth ; *Bab. Brit. Rubi*, 234. Shalaford Lane, Poole Hill, and Derriford, Egg Buckland. Abundant in the Plym valley and adjacent woods, between Long and Bickleigh Bridges. Newnham. Lane below Hele Wood, and elsewhere in the neighbourhood of Bickleigh.
- V. Wood near Stretchley. Near Goodamoor and Venton. Lutton. On the bushy flat below Pen Beacon. Between Cornwood Railway Station and the village ; also in the Yealm valley, between Cornwood and Dartmoor.
- VI. Flete. Between Ermington and Ivybridge, and in the Erme valley, near the latter village.

This Bramble delights to grow in low, shaded, or damp situations. Like some other Rubi, it not unfrequently has strong shoots of the year terminating in an immense panicle ; such shoots sometimes giving out two or three barren branches from the lower portion of the stem, which branches root at their ends just as do ordinary barren ones. I have seen such a shoot, only two or three feet long, with no less than four long secondary shoots for rooting ; one proceeding from the joint next below the first of the panicle branches. Among the distinguishing characteristics of *R. pyramidalis* are its ternate leaves and very prostrate stems. I have had the opportunity of studying this Bramble in the living state for a long period, and am fully satisfied that Babington is correct in considering it quite distinct from *Guntheri*. The plant of the neighbourhood agrees exactly with the typical *Llanberis pyramidalis*. My late valued correspondent, the Rev. A. Bloxam, gave me the name for it, on my sending him specimens from the Plym valley and Derriford several years ago. It is unfortunate that this most apposite one of *pyramidalis*, bestowed by Professor Babington, will probably have to give place to that of *longithyrsiger*, for reasons given under *R. hirtifolius*.

260. *R. Güntheri*, Weihe. *Gunther's Bramble*.

Native ; in woods and bushy places. Very rare and local. July, August.

- c. II. Cotehele ; *Bab. Brit. Rubi*, 238 ; this record, unlike most of the local stations mentioned in that work, is not founded on specimens collected by myself.
- IV. By the path leading from the Dartmoor tramway across Common Wood towards Bickleigh Vale, also in neighbouring bushy

spots ; and by the same tramway between Common Wood and Rumple.

The plant of District IV. (the other I have not seen) well represents the plant named *Giintheri* by British botanists. It agrees exactly with the *R. saltuum*, Focke. I have Silesian specimens from Professor Areschoug of what he considers the true *Giintheri* of Weihe, to one of which he has appended the note ‘an *R. Guentheri*, Angl. optime distincta.’ The barren stems of the two do not differ very strikingly, though the English plant is altogether more robust than the other. The panicle of the Continental one is extremely setose and aciculate, but can scarcely be said to be prickly, so remarkably weak is the entire armature of the whole flowering shoot.

261. *R. foliosus*, Weihe. *Leafy-flowered Bramble.*

Native ; in woods and hedges. Rather rare : locally abundant, but entirely absent from a considerable portion of the area.

July, August.

d. III. Blaxton. In woods on both sides of the Tavy between Lophill and Denham Bridge. Between Beer Alston and Tuckernash Quay, on the left bank of the Tamar.

IV. In abundance on a shaded bank a little above Elfordleigh Lodge, by the road to Shaugh.

V. In plenty in a wood between Westcombe and Newton Ferrers village. Lane between Puslinch and Lolesbury, and in Torr Wood. In woods and shady spots in and about the Yealm valley, between Yealm and Lee Mill Bridges. In hedge-rows by the Plymouth and Ivybridge Road near the Lynham Inn, and elsewhere in the neighbourhood of Lynham. By Kitley Brook, above Ford cottages. Between Venton and Slade. Between the Yealmpton and Sparkwell Road and Combgate. Close to Cornwood Railway Station, by the road thence to the village.

VI. In the lane between Ivybridge and Caton. Hedge by the turnpike road between Ivybridge and Cadleigh.

Judging from the dried specimens that I have seen of Bloxam's Warwickshire *foliosus*, this differs considerably from it. Local specimens have, however, been pronounced ‘*foliosus*’ by Bloxam himself.

262. *R. glandulosus*, Bell. *Glandular-stemmed Bramble.*

b. hirtus.

Native ; in wooded and bushy places. Rare and local. July, August.

c. I. Bushy spot by the Torpoint and Liskeard turnpike road, near Wackar Wood. Polbathick Wood, and between that and Polscove. Hedges at Crafthole.

- II. Hedge, Fullaford near Callington ; a form with comparatively few hairs on the barren stems and leaves ; agreeing best with sub-variety *rotundifolius*. Possibly the plants of Station I. would also be best placed under it.
- d. IV. Near the tramway a little below Plymbridge ; a form with large leaves, less leafy panicle, and fewer hairs and prickles on the stem than in ordinary *hirtus* ; possibly it does not belong to *hirtus* at all. I, however, venture to consider it this, from the resemblance it bears to the plant at the Ivybridge station.
- VI. Wood, Ivybridge. Babington says of this : "Just my *rotundifolius*. I have omitted to note the nearly naked under-side of the leaves, which seem to separate it from *hirtus*." He makes *rotundifolius* a sub-variety of *hirtus*.

263. R. Balfourianus, Blox. Balfour's Bramble.

Native ; in hedges and bushy spots. Very rare. July, August.

- c. I. Quite sparingly by the side of the road between Clapper Bridge and Blunts.
- II. Bushy bank near the Weir Head.
- d. VI. Kingston ; *Bab. Brit. Rubi*, 260 : the station is at Orcherton, near Kingston.

I have a plant collected at Kitley Quay (District v.) which looks near *Balfourianus*. In the opinion of the late Rev. A. Bloxam it exactly accords with *R. deltoideus*, Müll. I had the opportunity some years ago of comparing it with a specimen of this from Wirtgen, in Baker's collection, and found that it resembled it, except in wanting sunken setæ on the panicle and having the under side of the leaves less hairy. Babington combines *deltoideus* with *althæifolius*.

264. R. corylifolius, Sm. Hazel-leaved Bramble.

Native ; in hedges and thickets. June to September.

a. sublustris.

Rather common, and widely distributed.

- c. I. About Crafhole and Port Wrinkle. By the tidal Notter near Shillingham. Near Denabole, and between Sheviock village and Polscove.
- II. Cliff above Whitsand Bay, near Rame Head. Between Millbrook and Southdown. St. Johns. In hedges about Torpoint. With light pink petals, as well as with the ordinary white, near Antony. Near Saltash, by the road to Callington.
- d. III. Devonport and Tavistock Road, near Pounds. On the western side of Weston Mills Lake, and elsewhere near Bull Point. Near Swilly. Pennycross.

IV. On limestone at Pomphlet, Oreston, Radford, and near Hay farm-house. Plymstock.

V. Sea-bank above Wadham Beach. Between Knighton and Plymstock.

VI. Mothecombe.

I had the pleasure of hearing Mr. Less, when on a visit to Plymouth in the summer of 1879, certify as to growing specimens of this being his *sublustris*. It is apparently *R. vescicum*, Müll. His *R. acerosus* also seems similar.

vars. b. and c.

Local.

c. II. Hedges by the Saltash and Callington Road, sparingly.

d. III. Hedges between Pennycomequick and Prospect, in plenty. Near Bull Point.

IV. In plenty in hedges on the eastern outskirt of the town of Plymouth. Newnham, by the road to Sparkwell.

V. Bridgend. Near Cadleigh.

VI. Modbury.

I am unable to divide the plants growing at the several stations between *vars. b. and c.* Possibly all may be referrible to but one of them. The plant occurring between Pennycomequick and Prospect has leaflets considerably lobed and cut, and may belong to *R. althæifolius*, being much like a specimen collected by Mr. Harbord Lewis, referred to this species by Babington.

265. *R. tuberculatus*, Bab. *Tubercular Bramble.*

Native, in a hedge. Very rare?

d. IV. Hedge, Plympton.

The Bramble at this station agrees very fairly with specimens of *tuberculatus* from Sheen and Richmond, collected by Mr. Baker. Except in having more coarsely cut leaves it greatly resembles *R. 'Wahlenbergii, Arrh.'* ex. hort. Kew.

266. *R. cæsius*, L. *Dewberry.*

Native; in hedges, thickets, and by roadsides. Rather common, yet showing local tendencies. Near the end of May to September.

c. I. Hedge between Crafthole and Port Wrinkle (var. *umbrosus*). Sheviock, near the entrance to the grounds of the Rectory House.

II. Torpoint, and in hedges near St. Johns village.

d. III. Keyham Lane, sparingly, 1879. (Var *umbrosus*.) On rubble by Richmond Walk, Devonport. Between Mutley and Burleigh, and in a hedge by the Devonport and Manadon Road at Outlands. Between Whitleigh and Budleigh, and in the vale.

between the former place and Woodlands Fort. Hedge by Tamerton Creek.

- IV. Catdown quarries ! near Plymouth, probably introduced with ballast; *Hore, Phyt.* i. 162. Common over the limestone tract between the Plym estuary and Elburton. The Cattedown plant, and one occurring on limestone rubble from the Oreston quarries, seem to be var. *ulmifolius*. On a ledge of rock below the Hoe, Plymouth, 1875. Tothill. Laira. About Plymouth ; a luxuriant specimen of a plant from Newnham in that neighbourhood seems *R. rivalis*, Genev.
- V. On the Revelstoke side of Yealm Ferry. Between Elburton and Brixton. Near Yealm Bridge. Plymouth and Ivybridge Road, at about six miles from Plymouth.

VI. Near Ermington. (Var. *umbrosus*.)

This begins to flower early, some of the primordial blossoms expanding between the 20th and 30th May, and continues in flower for three or four months. I have found ripe fruit so early as July 18th. It abounds in a gratefully acid juice, and the flavour is very pleasant, though different from that of most, if not all, our other species.

First record : *Hore*, 1841.

I have noticed that the fruticose Brambles spring up readily and plentifully from seed. Tusser knew this in the days of Elizabeth, and wrote under ' Februaries husbandrie : '

" Now sowe and go harrow (where redge ye did draw)
The seed of the *bremble*, with kernell and haw."

Five Hund. Points Good Husb. ed. Eng. Dial. Soc. 1878-89.

267. R. saxatilis, L. Stone Bramble.

Native ; in bushy or stony places. Very rare. Latter part of May and early part of June.

- D. III. On stony ground at the junction of the Rivers Walkham and Tavy ; June, 1837. Mr. Ralfe has shown me several specimens collected at that time, when on an excursion with the late Mr. Berrer. I have searched in vain for it at the locality.
- IV. Common Wood; *Phyt.* v. N.S. 369. Discovered in May, 1861 ; still there, but quite sparingly, 1878. It occurs on a bushy bank at an elevation of only about 200 feet.

The above are the only known stations in the county of Devon.

First record : *Briggs*, 1861.

GEUM, L.

268. G. urbanum, L. Wood Avens.

Native ; on hedge-banks, in woods and shady waste spots. Very common. Area general.

A frequent species in the immediate neighbourhood of Plymouth, and found also over all the enclosed and wooded tracts. Sometimes the petals of the flowers are multiplied so as to give them a semi-double appearance.

269. G. rivale, L. Water Avens.

Native ; in damp woods. Very rare. May.

- d. III. Banks of the Tavy and Denham Bridge ; *Keys, Fl. ii.* 141 ; still in plenty in damp spots in a wood a little above Lophill, 1875.
- IV. Woods about Meavy ; *Rev. J. S. Tozer; Fl. Dev.* 89. No more recent record for it here.

First record : *Jones and Kingston*, 1829.

ROSA, L.

270. R. spinosissima, L. Common Burnei Rose.

Native ; in bushy and rocky spots close to the coast line. Very rare and local. June.

- c. II. On a mass of rock above Whitsand Bay, near Rame Head ; in a bushy and rocky spot at Penlee Point ; also on a bank above the road through the plantation between the Point and Cawsand. Hedge by the road from Rame Church to Rame Head ; first noticed by Mrs. Baker when on a visit to the neighbourhood of Plymouth in 1871.
- d. VI. On a dry bank or low cliff on the eastern side of the Erme estuary, very stunted, and in no great quantity, growing with *Calamagrostis Epigeios*, 1876. In two low hedges by the bridle-way on the western side of the vale between Okinbury farm-house, near Kingston, and Bigbury Bay ; a form with the peduncles and lower-portion of the calyx-tube more or less setose and aciculate.

I have never met with either flowers or fruit on the plant occurring by the Erme estuary, so know not if it is the form with aciculate peduncles or not, like the other growing in the neighbourhood. This is said by Baker to be quite rare in Britain.

271. R. tomentosa, Sm. Downy-leaved Rose.

Native ; in hedges and bushy waste spots. Common, and very widely distributed. June, part of July.

- c. I. Near Crafthole. Between Moditon Mill and Pillaton. Clapper Bridge. Between Latchbrook and Notter, and elsewhere near Saltash : "le vrai *R. tomentosa*, Sm." *Déség. MS.* and *Cat. Rais.* No. 377. Near Downderry ; "*R. Andrzejowskii*, Stev. ;" *Déség. Cat. Rais.* No. 385.

- II. Tregantle. Maker. Hay Lane, Wilcove, and Merrifield, near Torpoint. St. Mellion. Near Callington. Weir Head. Landulph : " *R. cuspidatoides*, Crép. ;" *Déség. Cat. Rais.* No. 370.
- d. III. [Field hedge near Mutley Lane, 1875 ; since destroyed.] Honicknowle. Between Pounds and Manadon. Near Tamerton Foliot. Beer Ferrers. Maristow.
- IV. Thornbury Lane, and elsewhere, Egg Buckland. By the tramway and in bushy spots about Fancy and Darklake. Hemerdon. Between Newnham and Crownhill Down. Hedge near Plympton : " *R. subglobosa*, Sm." *Déség. ib.* No. 381. Valley of the Plym : " *R. Andrzejowskii*, Stev." *id. et. ib.* No. 385.
- V. Near Worserwell, Revelstoke. Caulstone. Plymouth and Ivybridge Road. Ellacombe Lane, near Yealm Bridge. Stretchley : " *R. cuspidatoides*, Crép. ;" *id. et. ib.* No. 370. Cornwood.
- VI. Kingston. Battisborough. Harford, and between that and Cornwood.

d. scabriuscula and *e. sylvestris*.

- c. I. Between Trewickle and Pool, Sheviock (*scabriuscula*). Between Landrake and Pillaton. Notter Valley, near Clapper Bridge (*scabriuscula*). Near Weard, St. Stephens : with numerous glands on the under side of the leaves, stipules and bracts (*sylvestris*). In the Tidy Valley, between Heskyn Mill and Cutmere Bridge ; agreeing well with Wood's and Lindley's descriptions of *sylvestris*. Elmgate, St. Stephens : " *R. fœtida*, Bast." *Déség. ib.* No. 358.
- II. Pill, near Saltash. Border of a field below Hingston Down. Between Ashland and Harrowbarrow.
- d. III. Between Boxhill and Honicknowle ; also between the latter place and Weston Mills. Budshead.
- IV. Plymstock, and near Gore. Near Efford Mill, Alderpit, Common Wood, &c., Egg Buckland. Wood below Fancy House. Cann Wood.
- V. Newton Ferrers, Revelstoke, Bridgend, Brixton, Kitley : " *R. fœtida*, Bast." *Déség. Cat. Rais.* No. 358. Between Yealmpton and Ivybridge.
- VI. Flete. Gutsford. Modbury.

I am unable to divide the local examples of this Rose further than between clothly-leaved and thin-leaved varieties ; and even these two are connected by a series of forms. It will be seen that we have five of M. Déséglise's species represented under our aggregate *tomentosa*. The local plants he has named *fœtida* are similar to his former *Britannica*, which is equivalent to the *Jundzilliana* of Baker's *Review*. Mr. Baker now regards this as " essentially the same " as Lindley's *sylvestris*. (*Monog.*

Brit. Roses. Jour. Lin. Soc. xi. 218.) If it be so, the plants named *fœtida* must come under *e. sylvestris* of the *London Catalogue*. Yet Dr. Lindley himself, in his *Synopsis*, puts *fœtida*, Bast., as a variety under *R. tomentosa*, Sm., and makes a distinct species of *sylvestris*. *R. scabriuscula* and the other thin-leaved forms are, as a rule, found in damper spots than the plants with clothly leaves. *Rosa tomentosa* is a very lovely Rose, beautiful both in flower and fruit. Often by the end of August the latter is of a rich scarlet. What Déséglise regards as the true plant of Smith is remarkable for its very soft leaves, with comparatively few glands.

272. R. rubiginosa, L. Common Sweetbriar.

Native; in bushy spots and on banks. Very rare. June, July.

- c. I. In a hedge near Callington by the road to Saltash; probably introduced, as *Berberis vulgaris* and *Ligustrum vulgare* seem planted in the hedge.
- II. A small stunted bush on a rocky bank by the Torpoint and Liskeard turnpike road, near Antony, a little west of Hay Lane. One among furze by the St. Dominick Road, above Vernico Down.
- d. III. Two bushes near together but on different sides of the Plymouth and Saltash Road, about three miles from Plymouth; both growing where a periodical pruning will most probably prevent either from ever producing flowers. Honicknowle; some bushes on the border of a field, in front of Warwick Park house and garden: likely to have sprung from the seed of cultivated bushes. One plant on a hedge-bank between Powisland and the George Hotel, near Knackersknowle. [Some years ago a bush between Knackersknowle and Tamerton Foliot, growing among furze; it has since disappeared.]
- IV. A bush in a waste spot on limestone near Radford; flowering in 1872. A bush or two in Turtles Wood, above the Plym valley, near Riverford.
- V. One on a hedge-bank near Lee Mill Bridge. In a waste spot by the railway line near Cornwood; found here some years ago, with *Pastinaca sativa*; both species perhaps marking the site of some old garden.
- VI. A small bush on the side of a hedge-bank near Mothecombe, by the road to Battisborough.

We have *R. comosa*, Ripart, and *R. rotundifolia*, Rau.; two of M. Déséglise's species. The latter appears as quite a sylvstral shrub in Turtles Wood, but most of our examples of the 'sweetbriar' are in less satisfactory situations. The probability of the seeds being carried by birds from garden-grown bushes is so great that it is impossible to say to

what extent it is indigenous. The Rose found 'near Allowpit,' which I recorded as this in *Phyt.* v. N.S. 369, is *R. micrantha*, which I also think Mr. Keys's Rame Head one to be. (*Fl.* ii. 143.)

273. *R. micrantha*, Sm. Small-flowered Sweetbriar.

Native; in hedges and other bushy places. Common. June, part of July.

- c. I. In various places in the parish of St. Stephens; a bush with nearly white flowers in a hedge between Burraton Combe and Longlands. About Sheviock, in abundance. About Hessenford, Seaton, Tideford, &c., St. Germans. Markwell. Pillaton. St. Mellion. Notter Valley, near Clapper Bridge. Near Quethiock.
- II. Tregantle. Near Millbrook. St. Johns. Landulph. Near Wilcove. Saltash. Botus Fleming. Tinnel. Near Halton Quay. Near Callington.
- d. III. Burleigh. By Weston Mills Lake. Ham. Honicknowle. Saltash Passage, and elsewhere near St. Budeaux. Warleigh, Blaxton, &c., Tamerton Foliot. Tavy valley, and between Maristow and Milton. Beer Ferrers; in remarkable abundance at Gawton.
- IV. On limestone at Pomphelet, and near Hay. Leigham, Alderpit, Shalaford, &c., Egg Buckland. Rumple and elsewhere in the Plym valley. Bickleigh. Hemerdon and elsewhere in the parish of Plympton St. Mary. Hedge between Greenwell farm-house and Wigvor Down.
- V. Langdon. Between Revelstoke and Newton Ferrers, and in various places in the latter parish. About Brixton. Yealmpton, on limestone. Between Plymouth and Ivybridge. Near Beechwood. Cornwood. On the southern border of Dartmoor, below Pen Beacon.
- VI. On the Kingston side of the Erme estuary. Between Flete western lodge and Ermington.

Var. *pedunculo nudo*. b. *Briggsii*, Baker, *Mon. Brit. Roses, Jour. Lin. Soc.* xi. 222.

- d. III. In several places about Honicknowle. Two bushes in hedges by Moor Lane, near King's Tamerton. Hedge near Combe, Tamerton Foliot. Between Inchers and Axter Gate.
- IV. In several spots on limestone about Pomphelet. Near Radford and Gore limestone quarries; at the latter place the ordinary form in the same hedge. In a hedge by the Old Exeter Road between Lipson and Laira, 1875. In three places between Efford Mill and Buckland village, and again in a hedge by the

path between the Mill and Efford Manor-house ; at Shalaford, Leigham, Bircham, Fursdon, all in the parish of Egg Buckland. A bush in a hedge by the Plymouth and Tavistock Road about four miles from Plymouth ; also in one by a field through which passes the path from this road to the tramway at Wombwell. Two or three bushes in a hedge near Hemerdon.

- V. A bush near Coffleet Lake, below Spriddlestone. In hedges near Ford Cottages, between Ridgway and Lee Mill Bridge.

Rosa micrantha is one of our commonest roses, its abundance being quite a noticeable feature in the local flora. The petals vary in colour from very light pink to rose, but seem never to have the full deep rose of those of *rubiginosa*. The odour of the plant is generally stated to be ‘faint ;’ but it can only be said to be so in comparison with that of the true ‘sweetbriar.’ The fruit varies from ovate or urceolate to globose, and sometimes is sparingly setose, though usually naked, except close to the peduncle. I am not aware that the naked peduncled variety has been found anywhere else in Britain, though Dr. Christ has recorded it from Vallée de Clanzo, near Santa Anna, on the Maritime Alps. Our plant has the sepals eglandular at the back. It does not seem to be dependent either on soil or situation for its peculiarities ; for it and the type often grow in the same hedge-row, and it occurs on soils differently constituted. A luxuriant form of it is the var. *Briggsii* of Baker’s *Monograph*. The late Rev. A. Bloxam sowed seeds I sent him, and found it come true. M. Déséglise places it under *R. tomentella*, Leman, an arrangement that I cannot follow. In the neighbourhood of Plymouth *R. micrantha*, not *R. rubiginosa*, sometimes constitutes the ‘sweetbriar’ of cottage gardens.

274. *R. canina*, Auct. Dog Rose; ‘Pig Rose.’

Native ; in hedges, thickets, and other bushy places. June, part of July.

a. lutetiana, Leman.

Very common. Area general.

At Leigham, Egg Buckland (District iv.), a form with sepals somewhat glandular on the back, and leaves to some extent doubly serrated, “*R. Malmundariensis*, Lej.” (*Déség. Cat. Rais.* No. 171.) *R. lutetiana* seems to be the typical *canina* of Linnaeus.

c. sphærica, Gren.

Rare ?

- c. I. Hedge between Tregunnus and the coast, St. Germans.
 II. Hedge near Kingsmill, by the road to Landulph : ‘C'est bien l'espèce de M. Grenier ;’ *Déséglise in lit.*
 D. V. Between Lambside and Gnatton. Hedge by the Plymouth and

Exeter Road between Ridgway and Lynham lodge. Between Weston Mill and Stretchley.

- VI. 'A plant gathered by Mr. Briggs at Modoney' (Modbury) 'quite agrees with what I have from Besançon and Geneva ;' *Baker, Mon. Brit. Roses, Jour. Lin. Soc. xi. 227.*

With *sphærica* I have combined *R. syntrichostyla*, Ripart, MSS. of Déséglise.

d. senticosa, Ach.

Very rare.

- d. V. Hedge near Yeo ; *Baker, ibid.*

e. dumalis, Bechst.

Very common. Area general.

Probably the commonest of the plants coming under the aggregate *canina* ; but it includes at least two or three forms. One of the most general is a plant with light green, not glaucous, foliage and white flowers.

f. biserrata, Merat. *R. vinacea*, Baker, *Rev. 32.*

Very rare.

- c. II. Hedge at Carkeel, near Botus Fleming. Saltash and Callington Road.

- d. III. A bush at Blaxton, and one or two others between that and Pound farm-house, by the road to Horrabridge ; a form with a few setæ on many of the peduncles.

- IV. Hedge between Billacombe and Saltram, by the road to Plympton, one bush ; another near Hay ; several of the peduncles slightly setaceous.

g. urbica, Leman. *Forsteri*, Sm.

Very common. Area general.

Under this we have *urbica*, *semiglabra*, *hemitricha*, and *platyphylla* of M. Déséglise's *Catalogue Raisonné des Espèces du Genre Rosier*. *R. platyphylla*, Rau., is a very luxuriant form with remarkably large glaucous leaves, slightly doubly serrated, the serratures terminating in a peculiarly hard stiff point ; stipules and bracts fringed with glands ; fruit nearly or quite globose.

i. arvatica, Baker.

Very rare.

- d. III. Hedge between Plymouth and Milehouse.

- IV. Thornbury Lane, Egg Buckland ; with sepals slightly glandular at the back.

- V. Hedge between Wiverton and Blackpool. The bushes growing here differ from most of the North of England specimens by having leaves glaucous on both sides, yet Mr. Baker has pronounced a local one to represent 'good *arvatica*'.

j. dumetorum, Thuill.

Common.

- c. I. Hedge between Burraton and Notter Bridge.
- II. Millbrook. Trevol. Confirmed by Déséglise from both places.
(*Cat. Rais.* No. 235.)
- d. III. Ham. Budshead. Between Honicknowle and Weston Mills.
Blaxton and Warleigh, Tamerton Foliot.
- V. Collaford. Plymouth and Ivybridge Road.
- VI. Hedge at Sequers Bridge.

var. *obtusifolia*, Desv. Baker; *Jour. Bot.* viii. 79, 80.

Rather common.

- c. I. Seaton Valley. Hedge near Crafthole, and near Port Wrinkle.
Near Latchbrook, St. Stephens. Polscove. Tideford.
- II. Near Saltash. Botus Fleming.
- d. IV. Near Elburton. Between Stoneybridge and Leigham, and by the
canal in the Plym Valley, Egg Buckland. Bickleigh.
- V. By the Plymouth and Totnes Road at Kitley. By the Plymouth
and Exeter Road, near Lynham.
- VI. Hedge, Sequers Bridge.

Plymouth specimens agree well with Baker's description, as well as with that of Boreau. The latter describes the styles as free or agglutinated, and I have sometimes found them united so as to form a short column.

m. tomentella, Leman.

Rare and local.

- d. IV. A bush or two on a hedge-bank by Round House Field, near
Lipson Terrace, Plymouth, 1872: I fear since destroyed.
- V. One bush in a hedge between Dunstone and Holbeton. Three
bushes a short distance below Lee Mill Bridge, near the lane
from Yealmpton to Ivybridge; and several others in a hedge
by this lane near the cross road to Modbury. Two in a hedge
by the lane leading from the Plymouth and Ivybridge Road,
by Blackpool, towards Yealmpton, near Wiverton. A bush or
two in a hedge by the Plymouth and Exeter Road, near
Lynham Lodge; another between that and Collaford.

N. Andegavensis, Bast.

Very rare.

- d. III. In two places in a hedge between Pennycross Church and Boxhill;
also a bush in a neighbouring hedge below the field-path from
Boxhill to Prospect.
- IV. Hedge between Widey Cross and Forder Hill, Egg Buckland.

- o. verticillacantha*, Merat ; Baker ; *R. latebrosa*, Déség. ; *Jour. Bot.* iii. N.S. 170, 71. *Cat. Rais.* No. 210. *R. aspernata*, Déség. *Jour. Bot.* iii. 171, and *Cat. Rais.* No. 214.

Rather common.

- c. II. In two places by the road as you ascend the hill from Penters Cross towards St. Mellion village (*R. latebrosa*).
 d. III. Hedges near Prospect House, Weston Mills Lane, Pounds and Boxhill, Pennycross. Near Whitleigh. Between Saltash Passage and Ernesettle. In many places in the parish of Tamerton Foliot.
 IV. Near Thornbury, Fursdon and Shalaford, Egg Buckland. Hedge near Hemerdon House, Plympton St. Mary.
 V. Hedge near Harestone, Brixton.

The above stations all belong to the *latebrosa* of Déséglise, which is combined by Baker under *verticillacantha*. *Latebrosa* is noticeable for exhibiting a curious development of setæ and aciculi on certain parts of the stem, recalling the aspect of the least prickly of the *Spinosissimæ* group. It is worth noticing here that Woods in his *Monograph* (*Trans. Linn. Soc.* xii.) attaches considerable importance to the presence or absence of setæ on the stem in discriminating Roses, and I think the peculiar armature in the case of *latebrosa* a character sufficiently important to constitute it at least a variety apart from all our other forms.

The following stations belong to *R. aspernata*, Déség., the other plant placed under *verticillacantha* by Mr. Baker.

- c. II. A bush in a hedge by a secluded narrow lane, a quarter of a mile below Carkeel, on the north ; another in one by the lane leading up from the lodge at Moditonham to the field-path to Kingsmill, 1875.
 d. III. In hedges by the Plymouth and Saltash Road, between two and three miles from Plymouth ; also in one by Moor Lane, in the same neighbourhood. Sparingly at Woodlands, Budleigh, and near Ernesettle. Among copse wood at Warleigh, and in a hedge between Warleigh Old Lane and Warleigh House. This is the Rose Baker refers to in his *Monograph* as 'extreme' *verticillacantha*, 'with the calyx-tube prickly as well as the peduncle, and sepals glandulous on the back.' It is a very beautiful Rose.

p. collina, Jacq. non Baker.

Very rare.

- c. II. Hedge at Calstock ; agrees well with specimens of *collina* sent by Déséglise.
 d. III. Hedge-bank near Blaxton. Hedge between Tamerton Foliot and Roborough.

IV. Hedge, Furze Hill, near Plymouth.

I have combined two forms ; the Calstock plant being somewhat different from the other. M. Déséglise has named one of my Devonshire specimens *collina*, and Dr. Christ is inclined to consider the Calstock Rose quite the *collina* of Jacquin. This last much resembles a Continental specimen from Déséglise so named.

r. concinna, Baker.

Very rare.

- d. III. Hedge at Burrington, by the end of Weston Mills Lane ; also in a hedge by Little Dock Lane, Honicknowle, 1877.

x. coriifolia, Fries.

Very rare.

- d. V. Hedge near Lynham.

275. R. systyla, Bast. Columnar-styled Dog Rose.

Native ; in hedges, and other bushy places. Common, and widely distributed. June, part of July.

- c. I. Port Wrinkle, Crafthole and elsewhere in the parish of Sheviock. Burraton Combe, near Trevolland, &c., St. Stephens. Between Landrake and Tideford.
- II. Near Millbrook. St. Johns. Between Trevol and Antony. Saltash. Botus Fleming. Landulph. Near St. Mellion.
- d. III. Between Pennycomequick and Milehouse. Near Swilly and King's Tamerton. About Honicknowle. Near Whitleigh. Horsham Lane, Warleigh, Blaxton, &c., Tamerton Foliot. Beer Ferrers. Weir Head.
- IV. Furze Hill Lane, between Plymouth and Lipson ; likely to be soon all destroyed by building. On limestone at Cattedown and Pomphelet ; at the latter place with white flowers, as also near Hay Farmhouse. Saltram. Near Down Thomas. Leigham and Fursdon, Egg Buckland. Between Bickleigh village and Hele Wood. Bottle Hill.
- V. Lambside. Between Yealm Ferry and Noss. Wembury. Between Bridgend and Collaton Cross. By Coffleet Lake and elsewhere near Brixton. Near Puslinch. Near Cadleigh.
- VI. Between Kingston and Bigbury Bay. Ringmore. Hedges near Holbeton. Between Penquit and Ivybridge.

This Rose in my paper in *Jour. Bot.* viii. 350 I put as a second form under the plant which I then believed to be *R. collina*, Jacq., in accordance with Mr. Baker's view, but which plant I now feel convinced is the *R. leucochroa* of Desvaux. Our *R. systyla* is certainly identical with the Continental one, judging from specimens of the latter received from M. Déséglise, and also from the fact of his having so named numerous Devon

and Cornwall specimens sent to him. The hue of the foliage of *systyla* is lighter than in most of the plants of the *Canimæ*; the leaves are more sharply pointed; the peduncles longer, and the calyx-tube narrower. The petals are almost always more or less tinged with pink; often they are of quite a bright hue; sometimes they are mottled. The styles usually protrude, but to a very variable extent. The prickles are strong, with very long bases and a short and remarkably uncinate point. Woods clearly understood this plant, and described it well, noticing its elegant habit, cup-shaped flowers, long fruit and peduncle, &c. We have a form with sub-globose fruit. A Rose having considerable resemblance to *systyla* grows at Gawton, Beer Ferrers (District III.). Except in having hairy styles it agrees well with *R. virginea*, Rip., as sent by the Messrs. Groves to the Bot. Ex. Club in 1876. The name of this latter was confirmed by Déséglise, in whose arrangement of species *R. virginea* appears near *systyla*, and immediately before *leucochroa*.

(Var?) *leucochroa*, Desv. *R. collina*, Baker, *Jour. Bot.* iii. 83.
Very common. June, July.

- c. I. Between Port Wrinkle and Trewickle. Seaton valley. Between Burraton and Notter Bridge, and elsewhere in the parish of St. Stephens. Between Polscove and Polbathick. Cutmere. Near Pillaton Mills. St. Mellion.
- II. St. Johns. Saltash and Callington Road. Landulph. Cargreen. Calstock. Gunnislake.
- d. III. Mutley. About King's Tamerton, Weston Mills, and St. Budeaux. Tamerton Foliot. Blaxton. Beer Ferrers. Buckland Monachorum.
- IV. Furze Hill Lane and elsewhere in hedges in the immediate vicinity of the town of Plymouth. Cattedown. Pomphlet. Shalaford, Common Wood, &c., Egg Buckland. Plympton St. Mary. Bickleigh.
- V. Between Lambside and Preston. Newton Ferrers. Wiverton. Plymouth and Ivybridge Road. Yealm valley.
- VI. Kingston. Holbeton. Modbury. Ivybridge.

It will be seen that I venture to differ from my friend Mr. Baker concerning this rose. I adopt the view of M. Déséglise that it is the *R. leucochroa* of the Continental botanists, and not the *R. collina* of Jacquin, with which Mr. Baker would identify it. (*Mon. Brit. Roses, Jour. Linn. Soc.* xi. 232.) It is so common and generally diffused about Plymouth that I have had the opportunity of studying it well, and noticing its peculiarities. The points of difference between it and our other roses are very apparent to the eye familiar with it. M. Déséglise has had specimens from several places in Devon and Cornwall, and has named them *leucochroa*. It seems to be nearer to *systyla* than to any

other of our roses. It, however, forms a more erect and stiffer bush ; has leaves of a darker green ; the young shoots, prickles, and other parts of the plant are often much tinged with vinous-purple. The peduncles are shorter than in the other ; the disc is less prominent in fruit, the styles are commonly not so much agglutinated ; sometimes they are quite free. The petals are, as described by Boreau and Lloyd, white, with the claw yellow. Its styles are nearly or quite glabrous, in which and other respects it differs from *collina*, Jacq., as received from Déséglise. It begins to flower a little later than the plants belonging to the *Caninæ*. The blossoms are plentifully produced, and form a striking feature in our hedge-rows at Midsummer.

276. R. arvensis, Huds. White-flowered Trailing Rose.

Native ; on hedge-banks and in thickets. Very common. June to August. Area general.

Occurs in hedges close to the town of Plymouth.

b. vibracteata, Bast.

Rather common ; in certain spots in profusion.

- c. I. Hedge near Markwell, St. Erney. Near Polscove, Sheviock. In two spots in a hedge near Burraton village, St. Stephens ; strongly marked. Hedge between Latchbrook and Notter.
- II. Between Millbrook and St. Johns.
- d. III. Inchers, between Roborough village and Maristow ; and in a hedge by Roborough Down, near Maristow lodge.
- IV. In many hedges in the tract of country lying between Plymstock village and Plympton. Longbridge, and near Colebrook. Bickleigh. Lower Whittleborough.
- V. Revelstoke. Between Battisborough and Lolesbury. Wenbury. Chittleburn. Brixton Torr. Between Chaddlewood and Lee Mill Bridge. Close to the Vicarage House, Cornwood, and between the village and Harford.
- VI. In plenty in hedges near Holbeton. Kingston. Near Sequers Bridge. Penquit.

The shape of the fruit of *vibracteata* is very different from that of the typical form.

R. villosa. *R. mollissima*, Fries. Between Millbrook and Crafthole ; Jones, Tour, 16. Error. *R. tomentosa* grows in the locality, and doubtless was mistaken for *villosa* (*mollissima*).

MESPILUS, Lindl.

277. M. germanica, L. Wild Medlar.

Denizen ; possibly a native in some spots. Very rare. May.

- c. I. A large and abundantly spinous bush in a hedge-row at St. Stephens :

in a lane in the same neighbourhood between the St. Stephens and Saltash Road and Weard Quay, forming a considerable portion of the hedge-row growth for some yards ; also a single bush on a hedge-bank between fields at a right angle with the lane. Some large bushes intermixed with Oak on the side of a low cliff by the tidal inlet between Wivelscombe and Shillingham, occurring for a few yards ; near a garden, yet looking as much a Native as the Oak and Black Cherry, growing at the same place : with some fruit in August, 1878.

- D. IV. Growing quite wild on an isolated rock in Bovisand Bay (May, 1865), far from gardens or houses ; yet I do not feel justified in pronouncing it indigenous ; *Keys, Fl. ii.* 145. Specimens brought thence by my brother, Major Briggs, in 1871.
- V. On a bank by the Plymouth and Exeter Road, near Lynham ; only a single old bush, but growing where it was certainly never planted. As it occurs by the turnpike road, where the hedge-banks are frequently pared, it is not likely ever to produce flowers. Known for many years past, and recorded in *Jour. Bot. iii.* 350. This station is erroneously given as 'Tamerton Foliott' by Keys.
- VI. A bush in a hedge-row near Battisborough Cross, close to the road to Mothecombe, with *Pyrus communis* ; the both looking as if originally planted.

First record : *Briggs*, 1865.

CRATEGUS, Lindl.

- 278. C. Oxyacantha, L. b. monogyna, Jacq. Hawthorn ; 'White Thorn.'**

Native ; in woods, copses, on commons, and in hedges. Very common. May, part of June. Area general.

Over all the enclosed country, and also here and there in the wild open tracts. It occurs on many parts of Dartmoor, and up the valley of the Erme, between Harford Bridge and Erme Pound, many bushes of considerable size are dotted along the sides of the vale, with *Pyrus Aucuparia*. A bush with pink flowers near Sequers Bridge ; another, together with one bearing deep rose-coloured ones, in a hedge, planted for a fence, by the turnpike road near Ermington. A form with very deeply cut leaves occurs near Efford Mill (District iv.) ; in a hedge between Swilly and Weston Mills, and in a planted one at Roborough (District iii.). There are some very fine Hawthorns in the Tavy Valley, below Buckland Abbey.

About Plymouth the flowers of the Lilac (*Syringa vulgaris*) rather than those of this species are popularly known as 'May.' The berries are called 'aglets,' not 'haws,' by the country children.

PYRUS, L. Lindl.**279. P. terminalis, Ehrh. Wild Service Tree.**

Native; in copses, woods, and hedges. Rare, but thinly distributed over much of the wooded and enclosed portions of country. Latter part of May, June.

- c. I. A few old bushes in a field hedge at right angles with the road between Trematon village and Trehan, St. Stephens. On a hedge-bank close to Pillaton village.
- II. Harewood, near Calstock, by the path to Morwellham Ferry, 1874. Cotehele Wood, close to the Tamar.
- d. III. A splendid example—a tree at a rough calculation between thirty and forty feet high, with a bole clear of branches for about six feet from the ground, and a few inches from the surface four feet in circumference—in Warleigh Wood, near the heronry; in another part of this wood six small trees or bushes, the largest from fifteen to twenty feet high; and in a third place, three or four from five to seven feet; *Jour. Bot.* ix. 242; 1871. A single scrubby bush by the road to Warleigh House from Old Warleigh Lane. On the border of a copse by the road between Denham Bridge and Beer Alston; a bush by the footway from Beer to Tuckermärsh Quay. Wood at Newbridge, 1868.
- IV. By the Dartmoor tramway at Fancy Wood, in four or five spots; in one, two rather old but not large bushes often produce flowers, and some seasons a little fruit. Boringdon Hill, near Colebrook.
- V. In a hedge at Wembury; *Phyt.* v. N.S. 369. This station is rather between Plymstock and Wembury, near Spriddlestone, where are several bushes. Two or three on a hedge-bank near Whiverton House, by the road to Yealmpton.

Ascends to about 320 feet between Denham Bridge and Beer.

280. P. latifolia, Syme, MSS. Rep. Bot. Ex. Club, 1872-74, 19, 20. Broad-leaved Whitebean.

Native; in hedge-rows and woods. Very rare. Part of May, June.

- d. III. A single very old stock on a hedge-bank by the road from Tamerton Foliot to Roborough Down, near Bickham; another in a similar situation between the former place and Roborough village; the last very stunted through having had its branches cut away whenever the hedge-row has been pared; *Jour. Bot.* vi. 327. In two or three spots in hedges about the southern border of Roborough Down.
- IV. Five or six bushes on a hedge-bank bounding Wigvor Down, near Meavy. Two large bushes in a wood, principally of Oak,

between Roborough Down and the Meavy river, near Hoo Meavy : one had, in August, 1869, many clusters of unripe fruit ; and close by were two young bushes, sprung from seed, one of them of only two or three years' growth ; in a neighbouring wood was another fine bush with fruit.

There are valuable critical remarks on this plant by Dr. Boswell, in *Bot. Ex. Club Reports*, especially with reference to the name it should bear. In *English Botany*, under '*P. scandica*,' he speaks of a specimen that I had sent him, which was really of *latifolia*. Under the same name I inserted notices of it in the *Journal of Botany*. (See *Boswell*, in *Bot. Ex. Club Reports*, 1869, 11 ; 1872-74, 19-21.)

The flowers have a remarkably sickly and disagreeable smell. The fruit is nearly globose in shape ; those of the largest size rather over half-an-inch each way ; when fully grown, but stone hard, the colour is olivaceous brown, with numerous very small light-brown or greyish dots disposed irregularly over the surface, giving the skin a blistered appearance. When ripe, at the end of October or in November, it becomes somewhat reddish, but never has the decided red of the fruit of *P. Aria*. I inserted the above account of it in *Rep. Bot. Ex. Club*, 1875, 17. I have found seeds vegetate rather readily.

First record : *Boswell-Syme*, in *English Botany*, iii. 246 : 1864.

281. P. Aucuparia, Gaertn. Mountain Ash.

Native ; in woods, copses, wild rocky places, and hedges. Rather, though locally, common. May, part of June.

- c. I. Between Caracawn Cross and Hessenford. Seaton Valley. Wacker Wood. Sheviock Wood. Cutmere. Border of Viverdon Down. Notter Valley, near Newbridge. Between Wootton Cross and Blunts.
- II. Harewood, near Calstock ; *Keys, Fl.* ii. 146. Near Kingsmill. Cotehele. Between Ashland and Harrowbarrow.
- d. III. By the Plymouth and Tavistock Road at Torr. Hedge between Beaconsfield and Ham, Pennycross. Budleigh Wood, Blaxton, and elsewhere near Tamerton Foliot. Between Lophill and Denham Bridge. Beer Ferrers. Near Horrabridge.
- IV. Saltram Wood. Hedge between Marsh Mills and Plympton. Between Butless and Herdwick. Woods of the Plym Valley. Derriford. Bickleigh. In hedges, wooded and rocky spots about Dartmoor.
- V. Passage Wood, Revelstoke. Copse near Yealmpton, by the road to Revelstoke. A bush in a hedge between Chittleburn and Brixton village. Another in a hedge at Lynham.
- VI. Wood near Cling Mill. Border of a copse by the Erme, a little below Efford. Erme Valley, on Dartmoor.

By the end of August the fruit is ripe, and is much eaten by birds of the Thrush kind. It is one of the bushes of most frequent occurrence on Dartmoor.

282. P. communis, L. Wild Pear.

Denizen; in hedge-rows. Rare. April; and sometimes early part of May.

- c. I. A bush in a hedge-row near Trematon village. One in a field hedge near Markwell, by a cart-road to the Notter. A large and old bush of var. *a. Pyraster* in a hedge away from houses by a lane between Blarrick farm-house and Trelay; very spinous, but with the large leaves of a cultivated Pear; fruit produced in 1877. One measured in September of that year was $1\frac{1}{2}$ inches long by $1\frac{5}{8}$ inches broad; in flavour insipid, but not austere, though very gritty.
- d. III. An old bush in a hedge between Plymouth and Milehouse. A small tree in a bushy spot near Saltash Passage; it occasionally produces fruit, and is *Pyraster*, coming near some of the cultivated kinds. Three bushes at Blaxton, 1868.
- IV. A bush in a hedge near Lipson Mill. A small tree in one near a house by the road from Brixton to Plympton.
- V. An old bush in a hedge between Collaton Cross and Bridgend. A very small one at Harestone, below a hedge, 1868. An old bush on a hedge-bank near a house, just beyond where the old church-path from Noss to Revelstoke leads out into a lane: I believe now no longer there.
- VI. Some bushes, seemingly planted, with one of *Mespilus germanica*, in a hedge close to Battisborough Cross.

- c. *Briggsii*, Boswell-Syme. *P. cordata*, Desv. obs. pl. D'Anj. 152; Nyman, Conspectus Floræ Europææ.
Hedges. Very rare. May.
- c. II. An old bush in a hedge close to the path leading through fields from St. Johns village to Higher Tregantle; growing close to the Millbrook Road. Apparently similar to the Egg Buckland shrub, but no flowers or fruit ever found for comparison. Just beyond the western limit of District 1. three more bushes occur, between Seaton and Looe. (See *Bot. Ex. Club Rep.*, 1876, 17, 18.)
- d. IV. In three or four spots in a hedge between Thornbury and Common Wood, Egg Buckland.

Since I discovered this Pear, some years ago, it has attracted considerable notice, and the following references point to particulars concerning it: *Boswell-Syme*, *Bot. Ex. Club Rep.*, 1870, 11; *Masters, Gard. Chron.*

iv. N.S. 684; *Jour. Bot.* v. N.S. 225-29; 297-98. It is identified with *P. cordata*, Desv., and given specific rank by Nyman, in his recently published *Conspectus Floræ Europææ*.

From Dr. Boswell's description of it in *Rep. Bot. Ex. Club*, 1870, I extract the following: "Leaves small, about an inch long, oval, acuminate, rounded at the base, finely crenate-serrate, very slightly pubescent beneath and on the margins when young, glabrous when mature. Flowers small, about $\frac{3}{4}$ inch across, in a cyme, of which the rachis is often so elongated that it becomes somewhat racemose. Calyx densely and finely woolly. Styles a little shorter than the stamens. Fruit $\frac{3}{8}$ to $\frac{1}{2}$ inch long, roundish turbinate, abruptly narrowed into the long pedicel." To this I added the following in *Jour. Bot.* ix. 214, 15: "More shrubby and crab-like than most of the examples of the so-called Wild Pear that I have seen about Plymouth. The lower branches are plentifully furnished with spines. What is very remarkable is the late period at which it flowers; corresponding, as to this, not with our Pears generally, which are in blossom quite a fortnight or three weeks before, but with the Apple and Crab, or being a few days later than the last in unfolding its petals, which are often prettily tinged with pink on the outside. The elongation of the cyme, mentioned by Dr. Boswell-Syme, seems a constant character, as well as the densely woolly calyx." In the year 1875 a considerable number of fruits were produced, and many members of the Bot. Ex. Club were furnished with specimens. Late in that year I obtained some seeds, from which I raised three young plants, one of which was planted in the Arboretum at Kew, in the spring of 1879.

283. *P. Malus*, L.

a. acerba, D.C. *Common Crab-apple.*

Native; in woods, copses, and hedges. Common. Latter part of April, May.

- c. I. Between Trematon village and Elmgate. Hedges about Sheviock and Crafthole. Hedge near Pillaton village.
- II. Between Millbrook and Maker Heights. St. Johns. Antony. On a low cliff by the Tamar, near Saltash; by large flowers and pubescent pedicels slightly approaching *mitis*. Between St. Mellion and Halton Quay. Between Callington and Calstock.
- d. III. Pennycross, St. Budeaux. Warleigh Wood, &c., Tamerton Foliot. In a hedge-row on the western side of Roborough Down, producing fruit at about 570 feet. Buckland Monachorum. Beer Ferrers. Between Morwellham and the Weir Head. With pure white flowers in a hedge between Blaxton and Maristow.
- IV. Furze Hill Lane, Plymouth. Between Efford Manor House and Egg Buckland village. Maidstone, Common Wood, and other

aboriginal woods of the Plym Valley. Leigham. Between Newnham and Hemerdon. Near Lovaton. Some bushes in the aboriginal copse between Shaugh village and Dowerstone, at about 600 feet.

V. Wembury. Revelstoke. Between Collaton Cross and Bridgend. Near Elburton.

VI. Mothecombe, as a hedge-row bush, and among furze above the coast. Between Kingston and Ringmore. Carsewell. Holbeton.

b. mitis, Wallr. *Wild Apple.*

Denizen or Native; in hedge-rows and other bushy places. Common. Latter part of April, May.

c. I. Wacker Wood. Between Sheviock and Polbathick. Between the top of Trethill Lane and Tregantle Fort. Hedges in St. Stephens parish. About Landrake.

II. Near Millbrook. Antony. In several places in a hedge between Saltash and Carkeel. In hedges between St. Mellion and Cotehele Quay.

d. III. Woodlands, and between that and Knackersknowle. Near Blaxton. Many bushes on a high rocky cliff by the Tamar just above Holes Hole, on the edge of the low cliff between Gnathom and Beer Ferrers village, and elsewhere in Beer parish. A small tree in a copse between Horrabridge and Tavistock.

IV. Many bushes on limestone rubble heaps from the Oreston Quarries. On the embankments by the Plym estuary. In wild bushy spots on or about the Dartmoor tramway, above the Plym Valley. Between Elburton and Plympton. One bush on Roborough Down, near the sixth milestone from Plymouth, at 575 feet, 1874.

V. Lambside. Hedges at Revelstoke. Creacombe. Between Bridgend and Collaton Cross. Plymouth and Exeter Road, about six miles from Plymouth.

VI. Kingston. Between Mothecombe and Battisborough Cross. Holbeton. Modbury. Between Ermington and Cadleigh.

The variety or sub-species *acerba* is undoubtedly indigenous in our woods, and I think it questionable if *mitis* is not a wild form also, though probably many of our bushes of the latter have sprung from seeds of cultivated apples. *Mitis* most frequently occurs singly. Forms intermediate between it and *acerba* are to be met with. I have noticed one by the tramway (District iv.) producing flowers with the long stalks of *acerba*, yet having petals the size of those of *mitis*, whilst the young leaves were only slightly pubescent beneath.

LYTHRACEÆ.

LYTHRUM, L.

284. *L. Salicaria*, L. *Purple Loosestrife*.

Native ; by ditches, on river-banks, and in other damp spots.

Rather rare and local. July to September.

- c. I. Plentiful at Notter Bridge ; *Mr. Hunt* ; *Banks, Fl.* part iv. Valley of the Seaton, between the coast and Hessenford. By Wivelscombe 'Lake.'
- II. Weir Head ; *Mr. Smith* ; banks of the Tamar above Calstock ! ; *Mr. T. Bone* ; *Banks, ib.*
- d. III. Banks of the Tavy ! *id. et. ib.* Four plants at Stoke Damerel, by or near ponds made for storing willows on the north of the churchyard, 1872 ; one plant, 1876 ; now I fear extinct. Warleigh. Tamerton Foliot. In a moist spot between Beer Alston and the ferry to Calstock.
- V. Two small patches by the turnpike road between Lee Mill Bridge and Cadleigh. By the Yealm between Lee Mill and Yealm Bridges, and near Puslinch.
- VI. In the vale between Okinbury farm-house and Bigbury Bay. Orcherton. Sequers Bridge. Modbury.

This seems never to have been met with in the Plym District.

First record : *Banks*, 1830.

PEPLIS, L.

285. *P. Portula*, L. *Water Purslane*.

Native ; in pools and wet or muddy spots on commons and open roadsides. Locally common. June to September.

- c. I. Turfy spot by the Saltash and Callington Road, near Carkeel. Notter Valley. Between Pillaton village and St. Mellion. By the stream below Cadsonbury.
- d. III. Vale below Postham, Tamerton Foliot. Plaster Down. Sampford Spiney.
- IV. Watery spot below the viaduct, Common Wood. Cann Wood. Meavy Valley. Roborough and Wigvor Downs. Between Shaugh and Cadover Bridge.
- V. Banks of the Yealm ; *Keys, Fl.* ii. 147. Westlake Green. Roadside between Baccamoor and Slade, and near Dalamore, Cornwood.
- VI. Ivybridge ; *Ravensh. Fl.* 25. Hanger Down. In the Erme Valley and Blackpool, Dartmoor.

This is generally stated to be 'annual ;' but I find that in the spring young shoots are produced from short pieces of the stems of the previous year, firmly rooted in the mud of the pools where it grows ; so that it is really of perennial duration.

ONAGRACEÆ.

EPILOBIUM, L.

286. E. angustifolium, L. *Wild French Willow, or Rose-Bay.*

Native or Denizen ; on a bank. Very rare. July, August, or later.

d. IV. Bank by the Great Western Railway, below a wood at Chaddlewood, away from houses, and the wild form, *macrocarpum*, Steph., but it could not have grown at the spot before the line of railway was made, as this is below a 'cutting.' Known there since 1866.

b. *brachycarpum*, Leight.

An escape from gardens.

d. III. Well established on a hedge-bank and in an adjoining plantation, close to Maristow Lodge, by Roborough Down.

287. E. hirsutum, L. *Great Hairy Willow-herb.*

Native ; by ditches and watercourses. Common. July to September.

c. I. Between Crafhole and Port Wrinkle. Between Seaton and Hessenford. Near Moditon Mill. Between Tregunnus and the coast. Landrake. Tideford. Wacker.

II. Saltash and Callington Road ; a very hairy form near the Holland Inn. St. Johns.

d. III. Keyham ; Mutley ; *Keys, Fl.* ii. 149. Pennycomequick, close to Plymouth, 1879. Ham Valley. Tamerton Foliot.

IV. Shalaford, &c., Egg Buckland. Between Marsh Mills and Plympton St. Mary Church. Plymstock. Near Newnham. Bickleigh Vale.

V. Bridgend. Efford, near Harestone. Brixton. Yealm Valley.

VI. Flete.

Partial to the low warm tracts.

288. E. parviflorum, Schreb. *Small-flowered Hairy Willow-herb.*

Native ; by damp roadsides and in waste spots. Very common. July to September. Area general.

Occurs in the immediate neighbourhood of the town, and is a frequent species in the enclosed portions of country, sometimes growing in the wilder tracts, as on Viverdon Down. A nearly glabrous form at Tamerton Foliot and elsewhere.

289. *E. montanum*, L. *Broad-leaved Willow-herb.*

Native ; on banks, walls, by roadsides, and sometimes in bushy places. Very common. June to September. Area general.

A variety with white flowers is rather frequent, and has been met with in every one of the Districts. Several plants of it will sometimes be found in the same locality, leading to the inference that it will, at least to some extent, come true from seed. Some plants will have flowers opening white, but changing to rose before fading, just as in *E. lanceolatum*.

It is difficult to say whether *E. montanum* or *E. obscurum* is the commoner species ; the two are certainly the most generally diffused of the genus.

290 *E. lanceolatum*, Seb. *Spear-leaved Willow-herb.*

Native ; on rocky or stony banks, in dry waste spots, on wall-tops, and sometimes as a garden weed. Locally common ; in certain localities extremely abundant, whilst quite absent from some tracts. June to September, or later.

- c. I. Hessenford, and between that and Seaton. Near Wacker Mill. Wivelscombe, in plenty. Between Trematon village and Trehan. St. Stephens. Trevolland. About Tideford, Cutcrew, between Cutmere and Trerule, and at St. Germans village, all in that parish. Near Notter Bridge. Between Pillaton Mill and village.
- II. On slaty refuse by an old slate quarry between Trevol and Anteny. Wilcove, and near Merrifield. St. Johns. Abundant on the banks of the railway at Saltash, and occurring elsewhere in that neighbourhood. Landulph. Common near Cargreen and Tinnel. Between Hatt and Penters Cross. St. Dominick.
- d. III. Pennycomequick, and between that and Stoke Damerel. Quite common on walls and banks at or about Stoke, Keyham, and Ford. Frequent about Pennycross, Saltash Passage, St. Budeaux, and Tamerton Foliot. By the Plymouth and Tavistock Road, at Down House, near Knackersknowle, and near Roborough village. Between Lophill and Denham Bridge ; also between Lophill and Milton. Seen at a few spots in the parish of Beer Ferrers. In three places by the turnpike road between Horrabridge and Tavistock, 1879.
- IV. Lipson, and between that and Crabtree ; *Phyt.* vi. N.S. 287. On walls and in gardens about, and sometimes in, the town of Plymouth. On limestone at Cattedown, near the Oreston Quarries, and at Pomphlet. On slaty refuse between Goosewell and Staddiscombe. Near Down Thomas. Crabtree. Compton. Leigham, Thornbury Lane, and Alderpit, Egg Buckland. In

great plenty about the slate quarries, &c., in the Plym Valley. Newnham. About Plympton. Bickleigh.

- V. Brixton village, Winstone, on slaty refuse by Coffleet Lake, and elsewhere in Brixton parish. Near Lynham. Yealmpton. Between Cornwood Railway Station and the village; near the latter at 400 feet.
- VI. Kingston, in a lane close to the village, also by the road to Scotscombe, and near Cling Mill. Holbeton; half-a-dozen plants in a lane leading thence towards Flete, 1874. Strood, and elsewhere near Ermington. About Ivybridge. On refuse from the slate quarries between Ivybridge and Ugborough and elsewhere near Ugborough.

The profusion of this *Epilobium* in many parts of the area is a very striking and remarkable botanical fact. Whilst so abundant over a considerable extent of country, it is, however, rare or absent from certain localities. It ascends to above 500 feet near Roborough village (District III.), but grows mostly in low, warm situations, especially where slaty or shaly soils prevail, though not confined to them. It may often be seen growing abundantly on banks or 'cuttings' by the railways. Like some other species, it seems to be rapidly extending its range. In this neighbourhood it would seem to have either remained unnoticed, or else to have been confused with some of the other species of the genus, until I directed attention to it in *Phyt.* vi. N.S. 287, being the volume for 1862. It had, however, been previously recorded for Devon in Watson's *Supplement to the Cybele Britannica*, 1860; and there are specimens in *Herb. Borrer.* at Kew, labelled, "Blackpool, near Stoke Fleming, Devon, 1853," doubtless collected by the late Mr. Borrer. The flowers differ obviously in colour from those of *E. montanum*, being of a rosy or pinkish, not purplish, hue; they open of a pure white, but soon assume colour. The plant begins to flower about the same time as *E. montanum*.

291. *E. roseum*, Schreb. Small-flowered Smooth Willow-herb.

Casual or Colonist. Very rare or extinct. June to September.

- d. III. One plant by the side of the footpath in front of Stopford Place, Stoke Damerel, August, 1863. One as a weed in the garden of the chaplain's house, Devonport Dockyard, August, 1865.

292. *E. tetragonum*, L. Long-podded Square-stalked Willow-herb.

Native; by damp roadsides, and in waste places. Rather common, but with local tendencies. July to September, or later.

- c. I. Between Antony and Tregantle; rather sparingly, 1875. Near the old slate quarry at Wivelscombe. Between Landrake and Tideford, and at the latter place. St. Germans, by a road near the railway station.

- II. Wear, near Millbrook, as a weed in a garden ; *Keys, Fl.* ii. 150.
 Between Rame Church and Whitsand Bay. About Torpoint.
 St. Johns. Saltash. Calstock.
- d. III. Park Road, and about Pennycomequick, Stoke Damerel, and Keyham. Near Outlands and Pounds. Plymouth and Saltash Road. Between Swilly and Weston Mills. Honicknowle, and near St. Budeaux Fort. Bank by Tamerton Creek. Between the Winter Villa and Devil's Point, Stonehouse, 1866.
- IV. Between Plymouth and Laira Bridge. Cattedown, Radford, and near Hooe. Plymstock. Near Lipson Terrace, Plymouth, between Tothill and Laira, and near Emmanuel Church, Mannamead. Saltram. Between Egg Buckland village and Beauden Cross. Between Plympton and Elburton.
- V. Between Staddiscombe and Fordbrook. Brixton. Lane leading towards Weston Mill from Yealmpton.
- VI. Near Modbury, by the Plymouth Road.

Apparently absent from the semi-moorland parishes and all the wilder tracts of country. Affects damp clayey soils, both argillaceous and calcareous.

First record : *Briggs*, 1865 ; in *Jour. Bot.* iii. 350.

293. E. obscurum, Schreb. *Short-podded Square-stalked Willow-herb.*

Native ; by streams, ditches, roadsides, in moorland swamps, and on banks. Very common. June to October. Area general.

Over the whole country, open and enclosed. May be seen just around Plymouth, as well as in the swamps of Dartmoor. It sometimes occurs in very dry spots, although evidently having a preference for damp places. I am inclined to think it the commonest species of the genus.

294. E. palustre, L. *Narrow-leaved Willow-herb.*

Native ; in moorland bogs, by streams, and in swampy and damp places in the wilder tracts. Rather rare and local. July to September.

- c. I. In a rough meadow, with rushes, below Newton House, in the Notter Valley, 1874.
- d. III. Roborough Down. Among rushes in a marsh in the Tavy Valley, between Lophill Ferry and Denham Bridge. By the Plymouth and Devonport Leats, near Southaway Lane, 1863 : perhaps extinct through alteration and repair of the banks of the leats.
- IV. Vale at Common Wood, Egg Buckland. Near Hele, Bickleigh. By Tory Brook, above the clay-works, also close to where the Cornwood and Shaugh Road crosses it on Dartmoor. Bog below Lethitor, Dartmoor.

V. Bog in an enclosure below Hanger Down. Swamp on Dartmoor near the head of Broadall Brook.

VI. Erme Valley, between Ivybridge and Harford. Hanger Down.

I believe Hybrids are frequently produced among the *Epilobia*, as is known to be the case in *Carduus*, *Verbascum*, and some other genera. I have frequently met with specimens looking like hybrids between *E. montanum* and *E. lanceolatum*, growing with these two; also with others apparently between *E. lanceolatum* and *E. obscurum*; and less frequently with specimens having characters between *E. parviflorum* and *E. lanceolatum*; and *E. parviflorum* and *E. tetragonum*. I have several apparent hybrids preserved in my Herbarium.

Oenothera biennis, L. Thicket, Manadon Hill. Queen Anne's Battery, Plymouth; *Keys*, *Fl.* ii. 151. Alien. Planted, or else 'an escape' from cultivation.

O. odorata, Jacq. Alien. "I possess a specimen from Laira, Plymouth, collected by Mr. Keys, and Mr. Briggs has sent me examples collected there in 1862." *Boswell*, in *E. B.* ed. 3. iv. 26. At Plymouth. *Bab. Man.* ed. 7, 131. Alien. I found it near the toll-gate by the first embankment from Plymouth, but have not seen it for several years past. Perhaps the examples referred to under *O. biennis* really belonged to *O. odorata*.

CIRCEA, L.

295. *C. lutetiana*, L. *Common Enchanter's Nightshade*.

Native; in woods, and in other shady or damp places. Common.

Part of June to September.

- c. I. Between Hessenford and Seaton. Antony. Polbathick Wood. Killa.
- II. Between Calstock and Gunnislake; *Keys*, *Fl.* ii. 152. Botus Fleming. Cotehele.
- d. III. Pennycross. Tamerton Foliot. Beer Ferrers. Buckland Monachorum. Walkhampton.
- IV. Saltram; Bickleigh Vale; *Keys*, *S. D. Lit. Chron.* 300, and *ib.* A garden weed at Woodside, Plymouth. Lipson. Radford Wood. Cann Wood.
- V. Between Carsewell and Lolesbury. Langdon. Puslinch. Dala-more.
- VI. Between Sequers Bridge and Kingston. Pamflete. Holbeton. Ivybridge.

The creeping root-stock of this renders it a difficult plant to eradicate, and it proves a troublesome weed in some gardens. I have known poisonous properties to be attributed to it through its having been confused with 'Deadly Nightshade.'

HALORAGIACEÆ.

MYRIOPHYLLUM, L.

- 296. M. spicatum, L.** *Spiked Water Milfoil.*

Native ; in ponds, rivers, and slow streams. Common. July.

- c. I. In the stream from the Tidy supplying Heskyn Mill.
- d. III. In the leats at Pennycross.
- IV. Pond at Radford ; *Mr. Ralſs.* In the Plym, below Riverford. Meavy Valley.
- V. In the Yealm, near Cornwood.
- VI. In Shilstone Brook, immediately above Gutsford Bridge. In a large pond on the right bank of the Erme, at Pamflete ; abundant and fruiting plentifully, August, 1873.

When in streams rarely, perhaps never, producing flowers. This may be owing to their generally rapid current here.

CALLITRICE, L.

- 297. C. verna, L.** *Vernal Water Starwort.*

Native ; in a drain in a marsh. Very rare ?

- d. VI. Drain in the marsh between the lodge nearest Ermington on the Flete grounds and Sequers Bridge.

I sent the plant from the above station to Dr. Boswell, who said he thought it must be called *vernalis* (*verna*) from the fruit, but added that he had never before seen this with spathulate leaves. Mr. Keys says of *verna*, "about Plymouth and generally throughout the county" (Devon), and as to Cornwall, adds "common." I question these statements.

- 298. C. obtusangula, Le Gal.** *Obtuse-fruited Water Starwort.*

Native ; in marsh drains. Very rare.

- d. IV. In the water of a drain in the marsh between the Plymouth and Exeter Road and Saltram, at Marsh Mills, near Longbridge : discovered in 1877. Drain in Chelson Meadow ; probably *obtusangula*, but fruit wanting for examination, September, 1879.

- 299. C. stagnalis, Scop.**, inclusive of *b. platycarpa*. *Large-fruited Water Starwort.*

Native ; in shallow pools, and on mud by ditches and springs.

Very common. April to October. Area general.

Extends over all the enclosed country, and occurs also in wet places on some of the open commons.

300. C. hamulata, Kutz., inclusive of *b. pedunculata*, D.C. *Hooked Water Starwort.*

Native ; in rivers, streams, and pools. Common. April to August, or later.

- c. I. Viverdon Down.
 - d. III. In the Devonport Leat at Pennycross.
 - IV. Banks of Plym, above Cann Quarry ; *Keys, Fl.* iii. 218. Pit on Hemerdon Ball (*pedunculata*). Pool on Dartmoor between Cadover Bridge and Shaugh (*pedunculata*).
 - V. Puslinch, close to the bridge, in a pool. Pool in a wood below Lee Mill Bridge. Cornwood.
 - VI. Between Caton and Ermington. Pool, Hanger Down (*pedunculata*).
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GROSSULARIACEÆ.

RIBES, L.

301. R. Grossularia, L. *Gooseberry.*

Denizen ; in wooded or bushy places and hedges. Rather common. March, April.

- c. I. Hedges about Shillingham, St. Stephens. About half-a-dozen bushes by the Torpoint and Liskeard Road, near Antony village, growing with some of *R. rubrum*, near a garden, 1871. Wacker Wood. A few bushes on a hedge-bank bounding an orchard at Sheviock. Wooded spot above the inlet at Polscove. Two bushes by an old quarry in Polbathick Wood, 1871.
- II. Hedge between Whitsand Bay and St. Johns. About Pill, near Saltash, in the vicinity of gardens. In hedges about Wilcove and Merrifield, where are old gardens. On hedge-banks near houses, Lower Tregantle. Landulph. Two bushes in a thicket by a pond near the path through Antony House grounds, in a spot where they were evidently never planted by man, 1872.
- d. III. A bush or two near Denham Bridge, growing near *R. rubrum* and *Anchusa sempervirens*.
- IV. Hedge between Hay and Elburton, near Oreston. A bush on the side of Saltram embankment above the waters of the Laira, 1873. Several in a hedge near the hamlet of Thornbury, and a few in a plantation at Fursdon, Egg Buckland.
- V. Langdon. Thicket above Coffleet 'Lake.' Wood, near Yealmpton. Waste spot near a quarry between Gorlofen farm-house and the Brixton and Harestone Road. By the stream near Cornwood Vicarage, not far from a cottage.
- VI. A bush in a bushy spot between Bigbury Bay and Kingston

village, 1875. One on a hedge-bank between Battisborough Cross and Mothecombe, 1873.

The above records will suffice to show the conditions under which we find the 'Wild Gooseberry' to occur. It is generally seen sparingly or only singly at any one spot.

A convincing proof of the readiness with which it springs up on the seeds being deposited by birds, has been afforded me by a high garden wall at Plympton, on which I have noticed no less than half-a-dozen stunted little bushes. It does not seem that the seeds could have been brought by anything but birds to such a situation. Here also were a Currant bush, two Hawthorns, a Mahonia, and a little plant of Asparagus, all, I conclude, sown in the same manner.

The flowers are honey-scented, though not very powerfully so, and are very attractive to bees.

302. *R. rubrum*, L. *Red Currant.*

Denizen ; in woods, hedges, and other bushy spots. April, part of May. Rather common.

- c. I. Two bushes on a bank by the Torpoint and Liskeard Road, near Antony, with a large bush in a neighbouring wood. Three on the edge of a wood or plantation in the grounds of Antony House. Two on a hedge-bank near Polbathick.
- II. A few bushes on a hedge-bank by an orchard opposite Sunwell farm-house, St. Johns, 1873.
- d. III. Hedge between Mutley and Burleigh. A large patch, consisting of perhaps thirty or forty bushes, all near together, beneath old trees in Warleigh Wood, 1871. Four or five on a hedge-bank near Denham Bridge. One in the Tavy Valley, a little below Denham Bridge, 1875.
- IV. Goosewell and Shalaford, Egg Buckland, on hedge-banks near houses and orchards. Near Elburton village. Wood near Rumple Quarry, Plym Valley. Wood at Newnham.
- V. Near Harestone, on hedge-banks, sparingly. Near Gorlofen farm-house, Brixton ; some bushes in a hedge, one in a wood. Wood near Lotherton Bridge. Sparingly in Eastern Torrs Wood. Bushes for four or five yards close to the stream between West Sherford farm-house and Chittleburn Wood. Of specimens from this vale Dr. Boswell says, "This is the var. *b. sylvestre*;" *Bot. Ex. Club Rep.* 1876, 19.
- VI. Hedge by the turnpike road and elsewhere near Ermington. Between Ludbrook and Ugborough.

In *English Botany* ed. iii. we have under *R. rubrum* two sub-species, *sativum* and *sylvestre*, but I have found it impossible, by the characters given, to separate Plymouth specimens between the two.

303. R. nigrum, L. *Black Currant.*

- Alien or Denizen ; in damp bushy spots. Very rare. April, May.
- c. I. A single bush by a stream near a house at Rosevale, St. Germans, growing near a plant of *Symphytum officinale*, 1876.
 - d. III. A large bush by the mill-stream, Tamerton Foliot, with *Vinca major*, 1874.
 - IV. A large bush by the tramway near Darklake, Bickleigh, 1873. One by the Plym, a little above Plymbridge ; another in a sandy marsh near Rumble, but in the same locality a small root of one of the old garden Fuchsias, 1869.
 - V. Two bushes in Torr Wood, near Yealmpton. One between Puslinch Bridge and Kitley Quay. One in a field hedge opposite Lynham Lodge, 1874.
 - VI. Two by the stream at Gutsford Bridge. One in a hedge near a farm-house between Torr and Kingston, 1875. One on a hedge-bank at Flete, 1875.
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CRASSULACEÆ.

TILLÆA, L.**304. T. muscosa, L.** *Mossy Tillæa.*

Native ; on slaty refuse from quarries, and in dry spots on and about paths. Very rare and extremely local. April to June.

- d. IV. On May 13th, 1861, I found *Tillæa muscosa* growing on slaty soil near an old quarry on Colwell Estate, not far from the Plym, in the parish of Egg Buckland ; *Phyt.* v. N.S. 256. It is plentiful some seasons on slaty refuse about both Cann and Rumble (close to which is Colwell) Quarries, on each side of the Plym Valley, and also occurs by some of the roads and paths in their vicinity, but nowhere beyond half-a-mile from them.

In dry springs this soon passes out of flower and dies. If seen plentifully at a certain spot one season, but little may appear there the next, as is the case with some other minute species.

First record : *Briggs*, 1861, also for Devon.

SEDUM, L.**305. S. Telephium, L.** *Live-long or Everlasting Orpine.**a. purpurascens.*

Native or Denizen ; on bushy or stony hedge-banks and woody places. Common. August, September.

- c. I. Hedge near St. Mellion ! *Jour. R. Inst. Corn.* iii. 51. Trehan, growing near *Helleborus viridis*. Burraton Combe, and between Burraton and Notter Bridge. Markwell. Near Caracawn

and near Cutmere Bridge, St. Germans. Trewandra. Leigh, and elsewhere near Pillaton.

- II. St. Johns. Hay Lane, near Antony. Near Merrifield. Lower Pill, with *Helleborus viridis* and *Ornithogalum umbellatum*. Botus Fleming. Landulph. Hedge-bank in the vale between Cotehele Wood and Calstock.
- d. III. Lophill ! ; *Gould*, and *Harper*, *S. D. Lit. Chron.* 131 ; close to *Chelidonium* and *Althaea*, and near *Armoracia rusticana* : also between that and Milton, again with introductions. Near Tamerton ! ; *Keys*, *Fl.* ii. 158 ; it occurs in several places in that parish. Between Honicknowle and Weston Mills. Budleigh. Holes Hole, Gnathom, &c., Beer Ferrers. Near Bickham Lodge.
- IV. Egg Buckland ; *Keys*, *id.* ; in this parish at Creza Mill, Thornbury, Alderpit, Leigham, and on a bank below Maidstone Wood. In a plantation near a farm-house at Saltram, with *Ægopodium*. Bickleigh.
- V. Hedge-bank between Yealm Bridge and Ermington. Brixton Torr. In a damp wood between Weston Mill and Lee Mill Bridge. Yealmpton. Near Hitchcombe farm-house. By the stream just above Dalmore, Cornwood.
- VI. Lane to Cling Mill from the Sequers Bridge and Kingston Road. Penquit, near Ermington.

Seldom or never abundant at any one spot. Often associated with garden ‘escapes’ and denizen species. Clearly not indigenous at very many of its stations ; perhaps nowhere so.

First record : *Goulding and Harper*, 1846.

306. *S. anglicum*, *Huds.* English Stonecrop.

Native ; in rocky and stony places on the coast or near tidal waters ; also in granitic, and certain other, inland tracts. Common. June, July.

- c. I. Between Millbrook and Crafthole ! *Jones*, *Tour*, 16, an abundant species on the coast. St. Stephens. Between Wacker and Sheviock. Pillaton. Cadsonbury.
- II. Cawsand ; between Calstock and Gunnislake ; *Keys*, *Fl.* ii. 159. On slaty refuse by a quarry near Trevol. Saltash.
- d. III. About St. Budeaux and Tamerton Foliot. A slight variety, with unspotted white flowers, on a cliff by Weston Mills Lake. Beer Ferrers. Buckland Monachorum. Sampford Spiney.
- IV. On Dartmoor ! ; *With. Brit. Plants* ed. 7, ii. 559 ; ascends to 1470 feet. Hoe ; *Ravensh. Fl.* 28. Very abundant on slaty refuse at Rumble, Plym Valley. Herdwick, near Plympton. Bottle Hill. Sheepstor.

- V. Wembury. By Coffleet Lake and elsewhere in that neighbourhood. Revelstoke. Newton Ferrers. Cornwood.
 VI. Ringmore. By the Anchorist Rock. About the Erme estuary. Ivybridge. Harford.

In certain localities, as on the coast and in some of the rocky parts of Dartmoor, one of the most abundant species.

307. *S. acre*, L. Biting Stonecrop or Wall Pepper.

- Native ; on walls and roofs, and earth-capped walls ; rarely on sand by the coast. Common. June.
- c. I. Antony. Markwell. Tideford. Landrake. Leigh.
 - II. Near Saltash ; *Keys, Fl.* ii. 159. Torpoint. Very sparingly on sand just above the coast near Tregantle. Millbrook. Tinnel. St. Mellion.
 - d. III. Wall of the Naval Hospital grounds, Stonehouse. Weston Mills. Honicknowle. Blaxton. Buckland Monachorum. Horrabridge.
 - IV. Hoe ; Catdown ; *Keys, ib.* Oreston ; and by a limestone quarry between Plymstock and Hooe. Wall in the marshes between Tothill and Laira. Crabtree. Beauhaye, Egg Buckland.
 - V. Creacombe. Bridgend and Newton Ferrers. Yealmpton. Brixton.
 - VI. On a sand-bank and more abundantly on a wall at Mothecombe. Kingston. Modbury.

Unlike *S. anglicum*, this species defies smoke. I suspect it to be for the most part but an escape from cultivation, especially as it had an old medicinal reputation, and even now is frequent in gardens.

308. *S. reflexum*, L. Yellow Stonecrop.

- Denizen ; on banks, walls, and in dry stony waste places ; almost always near houses. Rather common. July.
- c. I. In profusion on old slaty refuse thrown out from Tilland Quarry ; also occurring on neighbouring walls. Wall by a limekiln at Tideford.
 - II. On a rock at Crimble (Cremyll) Passage, near Mount Edgecumbe ; *Gough, Camd.* i. 31, ed. 2. Railway bank, Saltash. Near Penters Cross. Bank below an orchard at Elbridge. Etheric, on a wall by a cottage.
 - d. III. Between Lophill and Milton ; *Keys, Fl.* ii. 160. On limestone rock near Richmond Walk, Devonport. Honicknowle. Near an old house at Holes Hole.
 - IV. Crabtree, by the tramway. Bank between Plymstock and Underwood ; at Plymstock, and also between that and Oreston.
 - V. Near Puslinch ! ; *Keys, ib.* ; it occurs plentifully by the road to Newton Ferrers, and in that village. On walls near a farmhouse at Wembury. Creacombe.

VI. Wall-top, and by the roadway to Cleave, near Ivybridge.

First record: *Gough*, 1806.

S. album, L. On a wall close to a house at Trehan, St. Stephens; no doubt planted originally. It occurs also in a few other places as an introduction.

SEMPERVIVUM, L.

309. S. tectorum, L. *Common Houseleek.*

Alien; on roofs of houses and cattle sheds, and on walls; but only where planted. Rather common.

I have noticed it in every District except vi., and have no doubt it may be seen in all, but strictly speaking it ought not to be numbered among the species of the area, being clearly an introduction, which, unlike many others, never propagates itself by seed, nor spreads to any distance from the spots where it has been planted. I name it in accordance with general custom, and because it is probably as 'wild' here as in any other part of the kingdom.

COTYLEDON, L.

310. C. Umbilicus, L. *Common Navel-wort; 'Penny Pies.'*

Native; on rocks, dry or stony banks, damp walls and roofs, and the mossy boles of trees. Very common. Part of May, June. Area general.

Grows on walls and old hedge-banks close to Plymouth, as at Mutley Plain, Tothill Road, &c.; extends over all the enclosed and wooded country; and is found in the hollows of the rocks and walls of the wilder tracts. In *Herb. Borrer*, at Kew, there is a specimen labelled, "Stem of the old oak at Meavy, July 25th, 1839."

Through the winter and early spring the large, round, deep green, root-leaves ('Penny Pies' of the country children) of this plant cluster on our damp mossy walls and shady hedge-banks, and form one of the most conspicuous objects among the scanty vegetation of the winter season.

SAXIFRAGACEÆ.

SAXIFRAGA, L.

311. S. tridactylites, L. *Rue-leaved Saxifrage.*

Native; on wall-tops and very dry banks. Common. March to May.

c. I. Sheviock village, and near Polscove. Hessenford. Tideford. Near Trerule. Heskyn. Landrake.

II. Between Torpoint and St. Johns!; between Cremyll and Maker Church; *Keys, Fl.* ii. 164. Lower Tregantle. Between Millbrook and Kingsand. Landulph. Halton Quay.

- d. III. Stonehouse Lane ! *Keys, S. D. Lit. Chron.* 192. Eastern boundary wall of Royal Naval Hospital, Stonehouse. Stoke Damerel. Honicknowle. Tamerton Foliot. Milton. Beer Ferrers.
- IV. Under the Citadel, and on many old walls in Plymouth ; Lipson ; Compton ! &c. *Keys, Fl.* ii. 164. Tothill. Between Plymouth and Cattedown. On limestone rubble by the Oreston Quarries. Underwood.
- V. Wembury. Elburton. Calstone. Bridgend. Brixton. Yealm Bridge. Plymouth and Ivybridge Road. Wisdom, Cornwood.
- VI. Ermington, in the village and elsewhere. Orcherton. Modbury. Ludbrook.

S. umbrosa, L. Only where planted or as a garden outcast.

CHRYSPLENIUM, L.

312. *C. oppositifolium*, L. *Opposite-leaved Golden Saxifrage.* Native ; about springs and wells ; on damp banks and rocks by rills and streams, and in woodland swamps. Common. March, April.
- c. I. Wacker Wood. Polbathick Wood. Between Burraton and Notter Bridge. Hatt.
- II. Lower Tregantle. St. Johns. Botus Fleming. St. Dominick.
- d. III. Ham. Warleigh. Between Maristow and Milton. Near Denham Bridge.
- IV. Lipson ! *Keys, S. D. Lit. Chron.* 192. Compton Vale. Stoneybridge, Rumble, &c., Egg Buckland. Between Goosewell and Staddiscombe. Between Colebrook and Newnham. Bickleigh.
- V. Langdon. Elburton. Fordbrook, &c., Brixton. Near Puslinch. Cornwood.
- VI. Kingston. Ermington. Between Ivybridge and Harford.
- A very elegant and graceful plant, producing a fine effect when extending in a large mass over a ledge of damp mossy rock, surrounded by fern, as we may see it in some of our river valleys.

UMBELLIFERÆ.

HYDROCOTYLE, L.

313. *H. vulgaris*, L. *Marsh Pennywort.*

- Native ; in bogs, marshes, moorland swamps, and damp spots by streams. Common. May to September.
- c. I. Seaton Valley. Viverdon Down. Notter Valley. Bog below Hammett Down.
- II. Marsh by St. Johns Lake. Near Harrowbarrow.

- d. III. Swampy spot in a field near Honicknowle. Warleigh Wood. Beer Ferrers. Plaster Down. Sampford Spiney.
 IV. Bickleigh Vale ; Shaugh ; *Keys, Fl. ii.* 164. Derriford, Common Wood, &c., Egg Buckland. Lovaton. Ringmoor Down.
 V. Revelstoke ; by a spring just above the coast. Near Spriddlestone. Westlake Green. Moorland pasture by Crownhill Down.
 VI. Dartmoor ! ; *Ravensh. Fl.* 29. By Bigbury Bay, close to the mouth of the stream below Kingston. Ivybridge.
 In peaty soils this is a very common plant.

SANICULA, L.

- 314. S. europæa, L.** *Wood Sanicle.*

Native ; in copses, woods, and bushy spots. Very common. May, June. Area general.

One of the widely-diffused woodland and copse species. Within a few miles of Plymouth it may be seen at Ham (District III.), Radford (IV.), &c., but in this limited tract, as also in some others, it is not now an abundant plant, from the absence of wood.

ERYNGIUM, L.

- 315. E. maritimum, L.** *Sea Holly.*

Native ; in sand on or near the coast. Rather rare. July, August, or later.

- c. I. Seaton. Near Port Wrinkle, very sparingly, 1875.
 II. Shores of Whitsand Bay, west of Lugger's Cave, *Mr. Sconce, Banks, Fl.* part 4 ; still occurs below Tregantle.
 d. IV. A little south of Bovisand Pier ; *Banks, ib.*
 V. On the shore between Wembury Point and the church.
 VI. Sand-bank by the Erme estuary at Pamflete.
 First record : *Banks*, 1830.

- 316. E. campestre, L.** *Field Eryngi.*

Native ; in an old limestone pasture by salt water. Very rare. July to October.

- d. III. On a rock which you descend to the Ferrey, from Plymouth over into Cornwall ; *Ray, Cat. Engl.* ed. 1, 105 ; 1670 ; as '*E. vulgare*, J. B. *vulg. et Camerarii*, C. B. *Mediterraneum*, Ger. *Mediterraneum sive campestre*, Park. *Common Eringo.*' On the hill which you ascend, after you are come over the passage to go to Plymouth grows *Eryngium vulgare* in great plenty, which I do not remember to have seen anywhere else in England. *Ray, 'Itineraries,' in Select Rems. Ray, by Derham*, 293 ; 1760. About the eastern point of the entrance to

Hamoaze, and perhaps nowhere else in Devon; *Yonge*; *Poluh. Hist. Devonsh.* i. 85; 1797. Saltash Ferry, Plymouth; *Ray*; Sir Francis Drake and Mr. Hudson found this plant as you ascend the rock from Crimble Passage, near Mount Edgcumbe (*MSS. Tour*); eastern point of the entrance to Hamoaze, *Mr. Yonge*; *Fl. Dev.* 47. East extremity of Cremil-point; *Banks*, *Fl.* part iv. Near the Devil's Point, at Stonehouse, Plymouth; *N. Bot. Guide* i. 19; in addition to the three stations of *Fl. Devoniensis*. Still in a limestone pasture at Devil's Point, but rather sparingly.

I have brought the above records together partly to prove how a single station, by being variously noted down in different works, and by being copied by one author after another, may at last come to be considered as three or four. In the instance now before us Mr. Banks has added to the confusion by giving it an old name 'Cremil-point.' One of the earlier records misled Jones as to its situation, and from what he tells us in his '*Tour*', he would seem to have sought for the plant somewhere near Anderton (see p. 15). This species is one of the most interesting in the Plymouth list; all the more so from its still occurring at the spot where the great Ray found it very nearly 220 years ago. It is, however, in danger of being gradually destroyed by thoughtless strangers and ruthless plant collectors, who visit the spot to carry away specimens of so rare a species. It behoves every botanist of the neighbourhood to do all that in him lies to guard it from destruction. In *Flora Devonensis* "walls of Plymouth garrison" appears as another station, on the authority of "Rev. Mr. Tozer," probably through some error; for the statement has had no confirmation. The authors of the work by their misquoting of stations under this species have confused Mr. Keys, as appears by his remarks in his *Flora of Devon and Cornwall*. (ii. 166, note.)

First record: *Ray*, 1670: found by him on Monday, July 7th, 1662.

APIUM, L.

317. *A. graveolens*, L. *Wild Celery*.

Native; in muddy spots by tidal rivers and drains with salt or brackish water. Common. Part of June to August.

- c. I. By the Notter, near Trevolland. By Sconner Lake. Polbathick. Tideford.
- II. Calstock; *Keys*, *Fl.* ii. 167. Vale between Rame Church and Cawsand. Millbrook. Wilcove. St. Johns. Kingsmill.
- d. III. Several plants by Stonehouse Mill Pond, below Deadlake Lane, 1874. Keyham, below Ford, 1879. Budshead. Tamerton Foliot. Maristow.
- IV. Salt marshes at Plymouth!; *N. Bot. Guide*, i. 18. Laira!; *Keys*, *S. D. Lit. Chron.* 300. Near Colebrook; *id. Fl.* ii. 167.

V. Wembury; *Keys*, *ib.* Bridgend. Between the Plymouth and Yealmpton Road and Puslinch Bridge, sparingly; also by the tidal inlet below Kitley Pond.

VI. By the Erme near Efford; and by a tributary stream at Orcher-ton and near Cling Mill.

Sometimes this is perennial, through buds breaking out around the crown of the root-stock of flowering plants; these by the succeeding spring form large tufted leafy masses about the withered flower-stalks of the previous year. I noticed many such tufted plants by Tamerton Creek in March, 1875.

In *English Botany*, ed. 3, it is stated to be biennial, in the *Manual* perennial.

First record: *Watson*, 1835.

HELIOSCIADIUM, Koch.

318 H. nodiflorum, Koch. *Procumbent Water Parsnip.*

Native; in streams and ditches. Very common. Part of June to September, or later. Area general.

The commonest of the stream-side and ditch species of the *Umbelliferæ*.

Cows are fond of this plant, and will crop its leaves even when there is no lack of grass.

PETROSELINUM, Hoffm.

319. P. sativum, Hoffm. *Common Parsley.*

Alien; established on rocky banks and walls. Rather rare. Part of June to August.

- c. I. In plenty on a rocky bank close to an old limekiln on the St. Stephens side of Antony Passage. A few plants near a house at Trewandra, 1874.
- II. Cremyll, on limestone rock. Well established in one or two spots by Millbrook Lake, between Incsworth and Southdown. On a garden wall, Saltash.

d. III. On limestone rocks by the road to Devil's Point from Durnford Street, Stonehouse. Hedge-bank by a garden near Pounds. Sparingly on a garden wall at Tamerton Foliot, with a patch of *Allium Schænoprassum*, 1875.

IV. On some rocks between Mount Batten and Turnchapel, apparently well established, 1874.

V. Well and plentifully established on a wall below a garden in the village of Newton Ferrers. Sparingly on a wall at Creacombe, 1873. Wembury, near the Alms-houses. Firmly established on a slaty bank or cutting by the Plymouth and Totnes Road, at Elburton; associated with *Geranium pyrenaicum*.

VI. On an old wall near the church at Modbury. A plant or two on a wall near Ermington village, 1874.

320. *P. segetum*, Koch. *Corn Parsley*.

Native ; on damp slaty banks and cuttings by roadsides ; also on hedge-banks in low or clayey spots, and sometimes as a weed among grass or corn. Rather common, and widely distributed. July, August.

- c. I. Downderry, 1875.
- II. Rame. Near Empacombe, by the Millbrook Road. Near St. Johns, amongst Rape, 1875. Neighbourhood of Torpoint and Merrifield.
- d. III. A few years since it grew in Deadlake Lane ; *Gould.*, *Keys, Fl.* ii. 167 ; ! 1875. Plymouth and Saltash Road, and between that and Keyham. Near Warleigh Lodge, Tamerton Foliot.
- IV. Hedges near Plymouth : *N. Bot. Guide* i. 18. Still is rather common, occurring in many spots just around the town, as between it and Cattedown, near Lipson Terrace, by the Tothill and Laira Road, and until 1872 in Tothill Lane, close to where now is St. Jude's Church. By the Old Eastern Road from Plymouth, and at Crabtree. Oreston. Saltram.
- V. By Cliff Road, and near Knighton, Wembury. Newton Ferrers, by the path to Yealm Ferry. Coffleet, and elsewhere about Brixton. One plant noticed in a grass-field close to Rowden farm-house, Revelstoke, 1874.
- VI. In a field of sown grasses, &c., between Carsewell and the Anchorist Rock, May, 1874.

First record : *Watson*, 1835.

SISON, L.

321. *S. Amomum*, L. *Hedge Stonewort*.

Native ; by clayey roadsides and on banks. Locally common. August, September.

- c. I. Sparingly in one spot near Notter Bridge, by the road to Saltash, 1878.
- II. Landulph, near the church.
- d. III. (Near the Camel's Head Inn, Keyham, Devonport, 1848 ; *Keys, Fl.* ii. 169. I suspect *Petroselinum segetum* mistaken for it.)
- IV. Between Crabtree and Plympton St. Mary Church ; *Phyt.* v. N.S. 369. Plymstock. Oreston. About Plympton. [Tothill Road, near the Lodge of Beaumont House, 1873 ; now extinct.]
- V. Abundant by Plymouth and Yealmpton Road ; *Phyt. ib.* Wembury, near the Alms-houses and by the road to Yealm Ferry. Newton Ferrers. Brixton Torr. Elburton. Blackpool.
- VI. Sequers Bridge, and between that and Orcherton. Modbury. Between Yealm Bridge and Ermington.

At several places where this occurs it is abundant, and most certainly it is an indigenous species. It seems never to grow on arenaceous soils.

First record : *Briggs*, 1861.

AEGOPODIUM, L.

322. *Æ. Podagraria, L.* Common Goutweed.

Denizen ; possibly Native in a few spots : on the borders of gardens, in waste spots near houses, and as a garden weed. Rather common. June, July.

- c. I. By a stream at Burraton Combe, St. Stephens.
- II. On two or three hedge-banks at Rame, near the church. Near a house between Moditonham and Botus Fleming village. In a wood behind a house near Weir Head ; also in a garden hedge between that and Calstock, associated with *Chelidonium* and *Anchusa sempervirens*.
- d. III. Weed in a garden at Morice Town. By the garden at Boxhill, Pennycross. Roborough village, and on a hedge-bank by the Down, close to Bickham Lodge.
- IV. A weed in Vinstone Nursery grounds. Widey. Saltram, in a plantation at the back of the farm-house, above Chelson Meadow. Plymstock. Plympton, close to an old building. Wiverton, near a house. Hedge-bank by an orchard at Butless. Hedge-bank below Hoo Meavy House.
- V. By the Yealm, near Yealmpton, and in a damp wooded spot between Weston Mill and Lee Mill Bridge ; perhaps brought by the river during a flood. Westlake and Weston ; very near houses. Border of an orchard at Lynham. Fursdon, on the edge of the grounds. Near cottages at Combgate ; also in the neighbourhood of Venton, associated with *Prunus Cerasus* and *Vinca minor*. By Gorlofen farm-house, Brixton. Lutton. In the Vicarage Orchard at Cornwood, also close to the village, and at Oundle.
- VI. Kingston, on the edge of a garden ; also near Cling Mill. Flete, close to the lodge nearest Ermington village. Near a house between Ermington and Ivybridge. In a wood near Ivybridge Railway Station. Border of a cottage garden between Ivybridge and Ugborough. Lukesland, by the entrance to the grounds from Harford.

When established in a garden it proves a troublesome and persistent weed.

CARUM, L.

323. *C. Carui, L.* Common Caraway.

Alien or Casual ; by roadsides, and occasionally in cultivated fields, but nowhere permanent. Rare.

- c. I. A plant in a corn-field near St. Stephens village, 1870.
- II. One by the Saltash and Callington Road, August, 1873. One at Halton Quay. Near Torpoint, 1876.
- d. III. A few plants in the strip of turf ground by Stonehouse Hill, Devonport, 1872. Two by Plymouth and Tavistock Road, 1873. One in a sown pasture near Knackersknowle, 1871.
- IV. Two plants on the line of the Great Western Railway at Crabtree, 1875.
- V. One by the turnpike road between Ridgway and Ivybridge, 1871. One on Yealm Bridge, 1875.

BUNIUM, DC.

- 324. B. flexuosum, Koch.** *Common Earth Nut; 'Pig Nut.'*
Native ; on banks, commons, in old pastures and woods. Very common. May, June. Area general.

Found on hedge-banks just around the town ; in old pasture land on the coast, and thence over the enclosed country, as well as on the open commons and moors. Undoubtedly one of the commonest species of the Order *Umbelliferae*.

PIMPINELLA, L.

- 325. P. Saxifraga, L.** *Common Burnet Saxifrage.*
Native ; on banks and in dry waste spots. Very common. Latter part of May to October. Area general.

A plant of remarkably general distribution, though seldom or never in profusion anywhere. It is to be seen on the dry limestone rubble-banks and in the warm coast pastures, as well as on the open downs and in the semi-moorland parishes. In the immediate neighbourhood of Plymouth it is mostly on the limestone that it occurs. The leaves of this species vary very greatly ; in some cases being scarcely more cut than those of *P. magna*, whilst in others they are divided into very narrow segments.

- 326. P. magna, L.** *Great Burnet Saxifrage.*

- Native ; on damp hedge-banks, in moist pastures and orchards, and by roadsides. Locally common. July to October.
- c. I. A large patch, extending over several yards, by the railway line at Wivelscombe, 1878.

II. Mount Edgcumbe ; Cawsand ; *Keys, Fl. ii.* 171. Seen in the neighbourhood of these places between Millbrook and Kingsand ; also between Maker and Rame, and in the lane between Wiggle farm-house and Millbrook ; and sparingly near the ruin of the old paper mill. Near Antony, by the road to St. Johns below Wolsdon ; and in one spot beyond Antony Vicarage House towards Tregantle. Five or six plants on a hedge-bank near St. Johns village, 1875 ; not previously seen there, though the locality had been often visited. Grounds at Pentillie.

- D. III. Between Saltash Ferry and Plymouth! *Fl. Dev.* 54; also between this road and Bull Point. In hedges by Nutley (probably Mutley) in the road to Tavistock; *ibid.* Between Mutley and Burleigh. In profusion about Pennycross. About St. Budeaux. Southaway Lane, Tamerton Foliot; and between Tamerton and Knackersknowle. Lophill; and sparingly between Roborough and Maristow. In one place between Roborough Down and Buckland Monachorum. The plant appears to be absent from the northern portion of this District.
- IV. Plympton; *Ravensh. Fl.* 30: in great abundance in this neighbourhood. About Plymstock and Staddiscombe. Furze Hill Lane, close to Plymouth. In plenty at Lipson and Laira. A very common plant in Egg Buckland parish, where there are orchards so full of it that literally cart-loads might be collected in July and August. Near Bickleigh Vicarage House. Shaugh.
- V. Hedges in the road between Plymouth and Totnes till as far as the eighth milestone; *Sir Francis Drake and Mr. Hudson, Fl. Dev.* 54. Wembury. Fordbrook. Between Puslinch and Newton Ferrers. Near Dunstone. Near Beechwood and Cornwood.
- VI. By the Plymouth and Totnes Road, between eight and eleven miles from Plymouth. Kingston, in plenty. Holbeton, in certain spots. Ermington. Near Ivybridge, by the road to Brent.

This species shows a preference for damp spots on a stiff or clayey soil. It occurs on limestone, but abounds most on slate, appearing to avoid arenaceous soils. Between Crownhill and Fancy, in District iv., it ascends to very nearly 450 feet. It seems gradually increasing.

First record: *Jones and Kingston, 1829.*

Sium angustifolium, L. Tothill Lane; *Keys, Fl.* 171. Error. Probably *Sison Amomum* mistaken for it.

ŒNANTHE, L.

327. **Œ. pimpinelloides**, L. *Callous-fruited Water Dropwort.*

Native (now extinct?). Limestone bank. Very rare.

- D. IV. "Hoe, Plymouth (*circa* 1849). It grew here on a comparatively dry bank. I have missed it for several years, the few plants there were having been carried off by some rapacious collector. I find, on reference to my botanical notes, that Mr. Charles Harper first directed my attention to this plant in 1847, at which time there were several roots; but in 1852 I could find only one. Mr. Watson, in his *Additional Notes (Cyb. Brit.* iii. 442), adds the Peninsula to the area of this species on faith

of specimens from Mr. F. H. Goulding. These specimens were from the Hoe." *Keys, Fl.* ii. 172, 73. A small tuft was seen by Mr. W. B. Waterfall, in 1877, but the tops of the stems were cropped off before the flowers were perfected.

328. OE. Lachenalii, Gmel. *Parsley Water Dropwort.*

Native ; in damp ground by tidal waters. Rare and local. July, August.

- c. I. In abundance amongst a fringe of rank vegetation by Wivelscombe Lake, below the farm-house. By the tidal Notter, near Trevolland, very sparingly, 1878.
- II. St. Johns, near Torpoint ; *Johns* : the specimen in Plym. Inst. Herb. was collected by Rev. W. S. Hore ; *Keys, Fl.* ii. 173 ; still in marshy land about St. Johns Lake.
- d. III. In a marshy piece of ground at Kinterbury ; apparently very sparingly, 1876. By Tamerton Lake, sparingly. Blaxton Marsh. There is no record of this for Districts iv., v., and vi.

329. OE. crocata, L. *Hemlock Water Dropwort.*

Native ; on banks of streams and ditches and in the swamps of the wooded and low open country ; also about the springs of the coast cliffs. Very common. Part of May to July, or later. Area general.

Occurs by the old course of the leat on Mutley Plain, and elsewhere near the town. After *Heliosciadium nodiflorum* the most frequent of our stream-side *Umbelliferæ*.

AETHUSA, L.

330. AE. Cynapium, L. *Common Fool's Parsley.*

Native ; in waste spots, by shady roadsides, and as an agrarian weed. Very common. May to October. Area general.

A common weed in gardens in the town.

FŒNICULUM, Hoffm.

331. F. vulgare, Gaertn. *Common Fennel.*

Denizen ; possibly Native in a few spots ; on cliffs, banks, and in waste spots, especially near salt or brackish water. Rather rare. July to September.

- c. I. Between Trematon and Antony Passage ; Tideford, near St. Germans ; *Keys, Fl.* ii. 175. In profusion at Tideford, but I suspect only an introduction, like *Melissa* and *Matricaria Parthenium*, species of the locality. Polbathick. Downderry.
- II. Rame ! ; Cremyll ; between Torpoint and Wilcove ! ; *Keys, ib.* Hay Lane, sparingly. By Millbrook Lake, between Inceworth and Southdown.

- d. III. Near Tamerton ; *Keys, ib.* Very sparingly near Saltash Ferry. On a bank, with *Geranium striatum*, between Whitleigh and Budshead.
- IV. Cattedown Quarries ! and Laira ! *Keys, ib.* Near Oreston village. Billacombe, by the road to Plympton.
- V. On a cliff by the coast near Revelstoke Church, also on a hedge-bank near Combe farm-house. In abundance at Newton Ferrers, on the cliff above the creek. Near Yealm Bridge, growing close to *Vinca minor*.
- VI. Mothecombe, plentifully in one spot on a hedge-bank.
I believe this not indigenous, though now perfectly naturalized. A curious variety, with foliage of a dingy brownish colour, occurs with the typical plant at Cattedown.

CRITHMUM, L.

332. **C. maritimum, L.** *Rock Samphire.*

Native ; on sea-cliffs and by estuaries ; growing especially on such rocks as are either close to the water or are occasionally dashed with the spray : sometimes on masonry by salt water. Very common. Part of July to October.

- c. I. By the tidal Notter, on the St. Stephens side of Antony Passage, and on a low cliff near Trevolland.
- II. Plentiful on the cliffs in Whitsand Bay ! ; *Keys, Fl. ii.* 176. Mount Edgecumbe.
- d. III. Devil's Point, Stonehouse. Saltash Passage.
- IV. Plymouth ; *Fl. Dev. 49.* Rocks under the Hoe ! and Citadel ; *Keys, Fl. ii.* 176. A few plants between the granite blocks on the outer side of the pier at Sutton Pool, Plymouth, 1873. Cattedown. Oreston. Mount Batten.
- V. Near Wembury ! ; *Keys, ib.* Revelstoke. Newton Ferrers. By Coffleet Lake, and between that and Kitley Pond.
- VI. Bigbury Bay. Mothecombe, and elsewhere by the Erme estuary. Wasps may be seen on the flowers of this plant, as well as on those of the *Scrophulariæ* and the *Symphoria racemosa*.

First record : *Jones and Kingston, 1829.*

ANGELICA, L.

333. **A. sylvestris, L.** *Wild Angelica.*

Native ; on the banks of rivers, streams, and ditches ; also in bogs. Very common. August to October. Area general.

One of the commonest species of the Order, occurring in very similar spots to those where *Oenanthe crocata* is found.

PASTINACA, L.

- 334. P. sativa, L.** *Wild Parsnip.*

Native ; on banks, in waste spots, and by roadsides. Rare, and extremely local. July, August.

- c. I. For a few yards, in a clayey spot by the Torpoint and Liskeard turnpike road, at Wacker Wood, with *Melilotus officinalis*, 1873, and subsequently.
- II. Near Wolsdon House, apparently an introduction, 1872. Three plants by the Penters Cross and Landulph Road, near the turning to Tinnel, 1873.
- d. IV. Waste ground near Plymouth ; *N. Bot. Guide*, i. 19. Cattedown Quarries and Laira Embankment ! ; in the latter place in profusion ; *Keys, Fl.* ii. 176. Common on the limestone beds between Plymouth and Elburton. Saltram Embankment. In clayey soil by the Dartmoor tramway at Shalaford, Egg Buckland. One plant near the tunnel at Leigham, 1869 ; half-a-dozen, 1870. A patch by the railway between Mutley and Lipson, 1874.
- V. On one of the banks of the Great Western Railway, at Slade, Cornwood, and by a road close at hand—probably derived from a garden, 1865 ; still there, 1872.

Certainly indigenous on the limestone beds of District iv., and possibly so in District i., but in ii. and v. probably derived from cultivated plants. First record : *Watson*, 1835.

HERACLEUM, L.

- 335. H. Sphondylium, L.** *Common Cow Parsnip.*

Native ; in waste spots on the borders of fields, under hedges, and in moist pastures. Very common. June to October. Area general.

Grows very near Plymouth. The form with very narrow leaf segments occurs ; sometimes intermixed with the ordinary one. Rarely the petals are of a decided pink. This species is among the commonest of the Order. I have heard the name "Billers" applied to some wild plant, and think it may belong to the Cow Parsnip, especially as Mr. Couch states that "Bilder" is one given to it in Cornwall.

DAUCUS, L.

- 336. D. Carota, L.** *Wild Carrot.*

Native ; on banks and in dry and poor pastures. Very common.

Latter part of June to September. Area general.

Occurs very near the town, and abounds in poor pasture land.

b. gummifer.

Common on cliffs and banks by the coast.

- c. I. On the cliffs near Crafthole ; *Jones, Tour*, 16. Seaton.
 - II. Tregantle ! ; *Keys, Fl.* ii. 177.
 - d. III. Bovisand, *id. et. ib.*
 - V. Wembury.
 - VI. Mothecombe. By Bigbury Bay, at Kingston.
- Connected with the typical plant by intermediate forms, and clearly only a maritime form or variety of it.

TORILIS, Hoffm.

337. T. Anthriscus, Gaertn. *Upright Hedge-Parsley.*

Native ; on banks, in waste spots, and by roadsides. Very common.
July to September. Area general.

Grows very near Plymouth, as between it and Milehouse, and is of frequent occurrence as a roadside plant in the enclosed country.

338. T. nodosa, Gaertn. *Knotted Hedge-Parsley.*

Native ; on dry banks, by footpaths, and sometimes as a weed in corn-fields. Locally common. May to September.

- c. I. Port Wrinkle, and near Crafthole. Downderry.
- II. Rame. Millbrook. Torpoint. Antony. Cargreen.
- d. III. Mutley. Border of Devonport Park, near the lodge, &c., Stoke Damerel. King's Tamerton. Blaxton.
- IV. West Hoe ; under the Citadel ; Staddon Cliffs ; *Keys, Fl.* ii. 178. Down Thomas. Cattedown. Plymstock. Between Plymouth and Laira. Leigham. Field at Common Wood, Egg Buckland, 1872.
- V. Wembury. Newton Ferrers. Revelstoke. Sea-bank above Wadham Beach. Brixton.
- VI. Near the Anchorist Rock, above Bigbury Bay.

One of the species that affect the warmest spots. I have never met with it around Dartmoor.

CHÆROPHYLLUM, L.

339. C. Anthriscus, Lam. *Common Chervil.*

Native or Colonist ; on hedge-banks. Very rare. Part of April, May.

- d. III. Near Tamerton Foliot, on a dry hedge-bank by the footpath to Blaxton : plentiful there in May, 1867 ; *Jour. Bot.* v. 310 ; noticed on two hedge-banks, 1871 ; still in plenty, 1875. The station may be more particularly described as between Horsham farm-house and Blaxton inlet.

Mr. Keys gives, in *Flora of Devon and Cornwall*, three local stations west of the Tamar for this species, but as a specimen from one of them, in *Herb. Plym. Inst.*, labelled as this, is really *C. temulum*, I mistrust all the three, and do not venture to quote them.

340. C. sylvestre, L. *Wild Chervil.*

Native ; on damp or shady hedge-banks, and in bushy spots in the enclosed country, especially about villages. Very common. March to May. Area general.

Grows on hedge-banks close to the town, as at Mutley, Keyham Lane, &c. It is the earliest of the *Umbelliferæ* to flower.

341. C. temulum, L. *Rough Chervil.*

Native ; on hedge-banks and in other bushy places. Very common. Part of May to part of August. Area general.

Occurs on hedge-banks close to Plymouth, as in Furze Hill Lane, between Mutley and Burleigh, &c., and abounds in all the Districts, being one of the commonest species of the Order.

SCANDIX, L.**342. S. Pecten-Veneris, L.** *Common Venus' Comb.*

Colonist ; in cultivated ground, and rarely on banks. Very common. April to September, or later.

- c. I. St. Stephens. Between the Saltash and Callington Road and Leigh ; on a hedge-bank, 1873. Between Heskyn and Cutcrew. St. Mellion.
- II. Fields between Torpoint and Antony Lodge ; fields near Tregantle sands, Whitsand Bay ; *Keys, Fl.* ii. 179. St. Johns.
- d. III. Plymouth and Saltash Road. St. Budeaux.
- IV. Staddon Heights ; Plymstock ; *Keys, ib.* Egg Buckland.
- V. Near Elburton. Newton Ferrers. Revelstoke. Cornwood.
- VI. Mothecombe. Kingston.

CONIUM, L.**343. C. maculatum, L.** *Common Hemlock.*

Native ; on earthy banks and in waste spots ; mostly about houses and villages. Common. June.

- c. I. Crafhole. Downderry. Shillingham, near Trematon and Trehan, St. Stephens. Tideford. Killa.
- II. Cremyll ; *Keys, S. D. Lit. Chron.* 324, and *Fl.* Millbrook. Torpoint. Near Saltash.
- d. III. A plant or two between Richmond Walk, Devonport, and the tidal inlet, 1872. Keyham. Honicknowle. St. Budeaux. Tamerton Foliot. Holes Hole and Beer Ferrers.
- IV. Plympton ! ; *Keys, ib.* Tothill Road, Plymouth, 1872. Between Plymouth and Cattedown. Lipson. Between Efford Manor House and Mill, Egg Buckland. Staddiscombe.
- V. Langdon. Rowden, Revelstoke. Near Bridgend. Elburton. Kitley.
- VI. Kingston. Orcherton. Modbury. Ermington.

PHYSOSPERMUM, Cuss.

344. P cornubiense, DC. *Cornish Bladder-seed.*

Native ; in woods, copses, bushy places on the borders of fields, and on commons. Rare and remarkably local. From near the end of June to August.

- c. I. Abounds in every bushy field in a direct line between Halton Quay, on the banks of the Tamar (District II.), and Newton Ferrers, on the river Lynher (Notter). *Jour. R. Inst. Corn.* iii. 50. The anonymous writer of the article from which this is extracted says his attention was first called to the plant by Mr. Kempthorne, of Callington, who found it growing in a field near Newton Ferrers. Within the tract indicated I have seen it in abundance in woods by a tributary of the Notter, near Pillaton and below Viverdon Down ; also in considerable quantity near Clapper Bridge, in several wooded or waste spots, occurring on both sides of the river. Moreover it has a wider range than the writer states ; for in 1869 I discovered it growing plentifully in spots on or about Hammet and Hayfield Downs, between Newton and Quethiock. (See *Jour. Bot.* vii. 319.) Still it does not grow in *every* bushy field between Halton Quay and Newton.
- II. In the upper part of the wood by Calstock Church, just below the road leading to Harewood ; *Notes of a Bot. Excursion, in a letter to Mr. Ralfe from J. Woods*, in *Rep. Penzance Nat. Hist. and Antiquarian Soc.*, 1852 ; several plants seen in this locality in July, 1867. Clether Wood, on the Tamar ; *Banker, in Naturalist*, iii. 207 ; *Keys, Fl.* ii. 180. Vernico Down ; *Jour. R. Inst. Corn.* iii. 50 ; in plenty in certain spots, 1870. Between thirty and forty flowering plants on hedge-banks by a lane near Dupath, about a mile from Callington, 1879. In abundance in two uncultivated strips of ground of considerable extent, bordering a field below Kit Hill, near Harrowbarrow ; also in less quantity in adjoining furzy land, 1879.
- d. III. In an oak coppice near Tavistock, about a quarter of a mile from New Bridge ; *Hore in Phyt.* i. 162. Now completely eradicated, the wood being metamorphosed into a corn-field ; *Goulding, Phyt.* iii. 643, 1849. Notwithstanding this statement it was collected many years subsequently by Mr. E. M. Holmes, near Newbridge. Scattered all over and abundant in some parts of a piece of uncultivated ground called Pound Down, according to a rough calculation rather more than an acre in extent, between Blaxton and Inchers ; *Jour. Bot.* vi. 206. In two hilly pastures within a mile higher up the valley, over a space of perhaps two acres ; 1868 : still in plenty in

part of one of the pastures, but the second in cultivation, and the plants only on the hedge-bank between it and the other field, 1871 : yet existing in the locality, but in reduced quantity through extended cultivation, 1877.

This ascends to 400 feet in District III. (Devon), and to 575 near Dupath. It attains its greatest luxuriance in partially shaded woodland glades, where its stems sometimes are two or three feet high and considerably branched. When gathered the leaves wither very quickly.

First record : *Hore*, in *Phytologist*, 1841 ; also first for Devon.

SMYRNIUM, L.

345. S *Olusatrum*, L. Common Alexanders.

Denizen ; on hedge-banks and in waste spots about villages or in the vicinity of old houses. Common. April, May.

- c. I. Antony Passage ; *Keys*, Fl. ii. 181 !; abundant, but with a number of 'escaped' species. About Port Wrinkle. Down-derry, near houses. Cliff by Seaton estuary, opposite the old house by the sands. Trethill, Sheviock, close to farm buildings. Trehan. Trevolland, growing near *Leonurus Cardiaca*. Between Saltash and Notter Bridge. St. Mellion, close to the Rectory House. St. Winnolls. Tideford Cross.
- II. Bank by the sea near Kingsand village. Near Wiggle farm-house, Rame. Lower Tregantle. Near Torpoint. Wilcove. Merri-field. Cremyll. Saltash. Tinnel. St. Dominick.
- d. III. Stoke ; *Jacob*, *Keys*, Fl. ii. 181. Hedge-bank behind Mont-pellier House, Pennycross. St. Budeaux, close to the village. King's Tamerton. On hedge-banks close to farm buildings at Horsham, Tamerton Foliot. Gnatham, and near Holes Hole. Beer Ferrers. Near Whitleigh.
- IV. Crabtree ; *Keys*, S. D. Lit. Chron. 192. Rocks under the Hoe and Citadel ! *Keys*, Fl. ii. 181. On limestone rock above the Barbican, Plymouth, at the back of the Admiral McBride Inn. In plenty between Lipson Terrace and Mount Gould. Cattedown. Oreston. Plymstock. Widey, Fursdon, Higher Leigham, in Egg Buckland parish, and close to that village.
- V. Langdon. Noss, below a garden. By a ruin, also near a garden, Newton Ferrers. Blackpool, close to a cottage. Between Ridgway and Ivybridge, opposite Ford farm-house. By cottages between the Plymouth and Ivybridge Road and Lynham.
- VI. Ivybridge ; *Julian*, *Keys*, Fl. ii. 181. Kingston, close to the village, and near a farm-house between that and Gutsford Bridge. Mothecombe. Battisborough Cross. Ernington, close to the village, and near a farm-house between that and Sequers Bridge. Carsewell. Modbury.

Keeping in view the situations in which this occurs, the species with which it is often found, and the historical fact that even comparatively recently it was grown for culinary purposes, I do not hesitate to regard it as no more than a perfectly naturalized species, although it is now so frequent and widely diffused. Its cultivation must have been very general in former times.

ARALIACEÆ.

HEDERA, L.

- 346. H. Helix, L.** *Common Ivy.*

Native ; in woods and hedges, by walls and rocks. Very common.

September to November. Area general.

Very frequent on old hedge-banks close to Plymouth.

CORNACEÆ.

CORNUS, L.

- 347. C. sanguinea, L.** *Common Dogwood ; 'Dog Timber.'*

Native ; in hedges and waste bushy spots. Common. June, July, and sometimes sparingly again later.

- c. I. Antony. Sheviock. Trevolland, near Saltash, &c., St. Stephens. Polbathick. Landrake.
- II. Near Cawsand ; *Keys, Fl.* iii. 46. Between Millbrook and Craft-hole. St. Johns. Landulph. Halton.
- d. III. Deadlake ! ; Ford ; *Keys, S. D. Lit. Chron.* 324. Weston Mills and Pennycross. Bushy banks near the Longroom, Stonehouse. Kinterbury. Warleigh Wood, &c., Tamerton Foliot. Plymouth and Tavistock Road, near Fancy. Between Holes Hole and Beer Ferrers. Between Swilly and Ham ; a variety with leaves very broadly ovate occurs.
- IV. Cattedown, and between that and Plymouth. Abundant on the limestone between the Plym estuary and Elburton. Lipson. Laira. Between Compton and Egg Buckland ; and at Shalaford, Fursdon, &c., in Buckland parish. Between Newnham and Hemerdon, and elsewhere near Plympton.
- V. Newton Ferrers ; *Keys, Fl.* iii. 45. Between Langdon and Knighton, &c., Wembury. Between Lambside and Preston, and elsewhere near Holbeton. Torr Wood, near Yealmpton, and in the Yealm Valley between that and Lee Mill Bridge. Fordbrook. Near Lutton.
- VI. Kingston. Mothecombe, above the Erme estuary. Ermington. Partial to limestone, and found most plentifully in the warmer portions of the area.

Viscum album, L. Erroneously recorded. Several years since this was stated to occur on an oak near Plymouth. (*Phyt.* i. N.S. 191, 92.) I have, however, little doubt something else was mistaken for Mistletoe by Mr. Lees, especially as what he considered this was seen by him from a railway carriage, on the topmost branches of a high oak. (See *Trans. Plym. Inst.* iv. 129.) The plant has been introduced at a few places in the neighbourhood.

CAPRIFOLIACEÆ.

ADOXA, L.

348. A. *Moschatellina*, L. *Tuberous Moschatel*.

Native ; on damp or shady hedge-banks and in woods. Locally common. Latter part of February or March, April.

- c. II. Sparingly in one place by the lane to Moditonham from the Carkeel and Botus Fleming Road, also by the direct road from Carkeel to the latter village.
- d. III. Ford Lane ; Manadon Wood ! ; *Banks*, Fl. part 2. Hedge-banks about Burleigh and Honicknowle. Woodlands and Budshead. Warleigh Wood. Near Denham Bridge, on each side of the Tavy, but quite sparingly.
- IV. Bickleigh Woods ; about Compton ! ; *Banks*, ib. Near Pontey's Nursery, Tavistock Road ! ; Saltram ; *Keys*, Fl. iii. 46. A common plant in Egg Buckland parish. In the vale between Goosewell and Staddiscombe, Plymstock. About Plympton.
- V. In many places in Brixton parish. Elburton. By the turnpike road between Kitley Lodge and Yealmpton village. Near Puslinch. Yealm Bridge. Near Lee Mill Bridge. Venton, and between that and Combgate.
- VI. Ivybridge ; *Keys*, ib. In plenty in the lane to Cling Mill from the Kingston and Sequers Bridge Road. Flete. Ermington. Between Ludbrook and Ugborough.

It will be seen that this is extremely rare in the Cornwall portion of the area. The fruit is very liable to be overlooked from its inconspicuous colour and its being often overshadowed by ranker vegetation when ripe at the end of June. The fleshy drupe has a peculiar, acid taste.

First record : *Banks*, 1830.

SAMBUCUS, L.

349. S. *nigra*, L. *Common Elder*.

Native ; in woods and hedges. Very common. Part of May to part of July. Area general.

Grows in hedges in the immediate vicinity of the town, as between Plymouth and Milehouse. Few bushes resist the salt sea breezes better

than the Elder. It springs up very readily from seed, and is often carried by birds to wall-tops. The fruit begins to ripen at the end of August. There is a fine tree by the Dartmoor tramway, above the vale between Bridget and Maidstone Woods, Plym Valley.

350. S. Ebulus, L. Dwarf Elder.

Denizen; in bushy or stony waste spots. Very rare. July, August.

- d. IV. In a waste spot near a cottage by Cann Quarry, in the Plym Valley.
- VI. On the edge of a low cliff by Meadowfoot Cove, below Mothe-combe village, growing with bushes of *Ulmus campestris*. It extends a little way into the field. In a hedge near are bushes of *Castanea vesca*.

VIBURNUM, L.

351. V. Opulus, L. Common Guelder Rose.

Native; in hedges in damp spots and in moist woods and copses. Common. June.

- c. I. Wacker Wood. Between Polbathick and Hessenford. Tideford. Landrake. Hedge by Pillaton Down, and elsewhere in that neighbourhood.
- II. Between Torpoint and Antony. Near St. Johns. Woods by the Tamar. Between Callington and Calstock. Botus Fleming. Kingsmill.
- d. III. Manadon Wood and Widey; *Keys, S. D. Lit. Chron.* 324, and *Fl. iii. 48.* Ham Valley, and elsewhere near Weston Mills. Torr Grove. Budshead. Warleigh Wood. Between Lophill and Milton. Between Beer Alston and Tavistock.
- IV. Bovisand Lane. Between Staddiscombe and Plymstock. Between Compton and Egg Buckland. Stoneybridge. Common Wood. Fancy Wood. Newnham, and elsewhere near Plympton. Between Bickleigh and Roborough Down.
- V. Between Lolesbury and Battisborough. Near Bridgend. Between Creacombe and Holbeton. Kitley. Combgate and near Slade.
- VI. Between Kingston and Ringmore. Flete. Modbury. Between Ermington and Cadleigh.

This shrub is very beautiful both in flower and fruit; the latter is often of a brilliant red by the end of August. The leaves before falling take the richest tints of red and purple.

352. V. Lantana, L. Wayfaring Tree.

Native; in hedges and other bushy places. Very rare and local. May.

- d. III. A bush in a hedge-row near Pound, Buckland Monachorum ; doubtless not indigenous.
- IV. One in a hedge-row between Oreston and Plymstock, near one of *Acer campestre* ; two by the road leading from Hoe to Stad-discombe, in the same neighbourhood ; probably derived from cultivated bushes in some of the neighbouring grounds.
- V. Between Combgate and Venton, in many hedges, and not confined to the rows of bushes on top of the banks. Some years ago I noticed several small bushes in a plantation in this locality that had apparently sprung from seed. This station I gave as 'near Sparkwell,' in *Phyt.* vi. N.S. 256, 1862.
- VI. In three or four places in a hedge-row near Mr. Bulteel's house at Scotscombe, Kingston, 1875.

Looks an Alien or Denizen, except in District v. It seems often to be a species of remarkably local range, as it is there. I have noticed ripe fruit towards the end of August.

LONICERA, L.

353. L. Periclymenum, L. *Common Woodbine ; 'Honeysuckle.'*

Native ; in copses, woods, and hedge-rows. Very common. June to October. Area general.

Grows in hedges very near the town, as well as about bushes or rocks on Dartmoor ; occurring on limestone, slate, and granite. In *Phyt.* i. 162 the Rev. W. S. Hore recorded from Bovisand, "A variety of this Honey-suckle with leaves resembling those of the Oak." The earlier leaves are often more or less lobed, but as the season advances those produced are without the divisions. On a hedge-bank by a road to Bickleigh, south of Roborough village, a variety with lanceolate leaves occurs.

L. Xystosceum, L. Planted at Ham.

Sympelia racemosa. An Alien shrub much cultivated, and now found in several hedge-rows. Near Tregantle farm-house ; near Botus Fleming (District II.) ; near Denham Bridge (III.) ; hedge-bank between Plympton and Brixton, in two places (IV.) ; near Puslinch (V.). From the pretty white fruit it is sometimes called 'Snowball.'

RUBIACEÆ.

RUBIA, L.

354. R. peregrina, L. *Wild Madder.*

Native ; in bushy spots and hedges, and about sea-cliffs. Rather common. July, August.

- c. I. Near Crafthole ; *Jones, Tour*, 16. Between Trematon and Antony Passage ; *Keys, Fl.* iii. 53. Wacker. Polbathick.

- II. Carkeel; *Banks*, *Fl.* part viii. Wilcove, and elsewhere about Torpoint. Plantation near Penlee Point. By the Tamar, a little above Saltash. Hedge close to Halton Quay.
- D. III. On the hill which you ascend after you are come over the passage (from Mount Edgcumbe) to go to Plymouth (as *Erythrodanum*); *Ray*, 'Itineraries' in *Select. Rems. Ray, by Derham*, 293, 1760. Near the Devil's Point, at Stonehouse; *Mr. E. Forster, jun., Bot. Guide*, i. 197. Keyham; *Banks*, *Fl.* part viii. Hedges between Milehouse and Weston Mills, and on cliffs by Weston Mills Lake. By the Tamar, near Saltash Passage. About Woodlands. Warleigh Wood, Blaxton, and between Tamerton Foliot and Postham. Beer Ferrers. [Hedge close to the bridge over the railway, east of Osborne Villas, Stoke, 1874.]
- IV. Cattedown Quarries; *Banks, ib.* Rocks under the Hoe; *Keys*, *Fl.* iii. 53. Near Hay and Wixenford farm-houses. Between Tothill and Laira, and elsewhere in the vicinity of the waters of the Plym estuary. Near Estover, Derriford, Coleridge, &c., Egg Buckland, ascending to 275 feet. Between Plympton and Plymbridge.
- V. In a waste called the Torrs, between Puslinch Bridge and Yealmpton; *Yonge, Polwh. Hist. Devonsh.* i. 83, 1797. Near Kitley Cavern. Above the Yealm estuary at Wembury. On the coast above Wadham rocks; with very broad leaves. Netton, Revelstoke. Brixton Torr. Between Weston Mill and Stretchley. Between Chaddlewood and Lynham Lodge. Near Slade.
- VI. Near Kingston. Mothecombe. Between Yealm Bridge and Ermington.

Most frequent on limestone and about salt or tidal waters. It was found at Devil's Point, by Ray, on Monday, July 7th, 1662.

GALIUM, L.

355. G. cruciatum, *With.* Crosswort.

Native; on dry banks and in waste spots. Locally common; in certain localities abundant, but quite absent from a considerable portion of the area. April to June, or later.

- D. IV. Staddon Heights!; *Jacob, Fl.* part 3. Saltram; [near Lipson Mill, on the road to Crabtree]; *Keys, S. D. Lit. Chron.* 192, and *Fl.* iii. 50. Radford and Goosewell, Plymstock. Plentiful in many spots between Brixton and Plympton. Between Plympton and Plymbridge, near the Triumphal Arch. Between Chaddlewood and Venton.
- V. Between Langdon and Knighton. Elburton and Fordbrook, and

between the latter place and Wembury. In many places in the parish of Brixton. Between Bridgend and Gala Cross. About Puslinch and Yealmpton. By the Plymouth and Ivybridge Road, near Lee Mill Bridge.

VI. Kingston. Near Orcherton. Penquit, Ermington.

One of the strikingly local species in the area. Although apparently partial to limestone, its occurrence does not depend on the presence of this rock; for we have beds of limestone without the plant, and elsewhere the plant without the limestone.

First record : *Jacob*, 1835.

356. *G. verum*, L. Yellow Bedstraw.

Native ; in dry or sandy pastures, on commons, and in open waste spots. Common. July, August.

- c. I. Port Wrinkle. Heath on the Quethiock side of Clapper Bridge.
- II. Whitsand Bay ! plentifully ; *Jacob*, *Fl.* part 3. Between Millbrook and Southdown. About Torpoint. Penhale.
- d. III. Devil's Point, Stonehouse. King's Tamerton, and near Bull Point. Blaxton, &c., Tamerton Foliot. Roborough Down.
- IV. At Cattedown ; Staddon Heights ; on the rocks of the Hoe, and elsewhere about Plymouth ; *Keys*, *Fl.* iii. 51. Near Radford Quarry, and elsewhere on the limestone between Plymouth and Elburton. Thornbury. Between Longbridge and Plymbridge. Ruins of Plympton Castle. Between Shaugh Bridge and Bickleigh village.
- V. Wembury. Revelstoke, above the coast and near Worsewell.
- VI. By Bigbury Bay, below Kingston. Mothecombe. Ivybridge.

b. ochroleucum; Boswell-Syme, *E. B.* ed. 3. *vero-elatum*; Baker and Foggitt; *Rep. Bot. Ex. Club*, 1865, 9.

- c. II. A patch for about a yard on a bank near Lugger's Cave, Whitsand Bay, with typical *verum* and *Mollugo* growing near, 1869.
- d. V. In two places on the sea-bank at Revelstoke ; at each near both *G. verum* and *G. Mollugo*, 1875. Three patches in turf ground at Wembury, near the Yealm Ferry ; and another at some distance, also above the estuary ; near the two supposed parents at each spot. Here, at Wembury, two forms ; one by its comparatively broad leaves and general look considerably more like *Mollugo* than was the other, 1875. On the edge of a low cliff between Wembury and Bovisand, near *verum* and *Mollugo*, 1865.
- VI. Rather sparingly with the typical plant at Meadowfoot Cove, Mothecombe, 1873.

I believe this *G. ochroleucum* to be a hybrid between *G. verum* and *G.*

Mollugo, having mostly the characters of the former ; but, in June, 1865, I found a plant by the Plymouth and Saltash Road, at about two miles from Plymouth, which, on the contrary, was more like the latter, although to a certain extent intermediate. It, with one of the Wembury forms, will be found described in *Bot. Ex. Club Rep.* 1865, 8, 9. It grew close to a mass of *Mollugo* and a patch of *verum* ; was still there in 1872, but seemed dwindling away, and has since died out.

357. G. Mollugo, L. Common Great Bedstraw.

Native ; on banks, in hedges and thickets. Very common. Part of June to part of August. Area general.

One of our most abundant wild plants, occurring in plenty close to the town. Its earliest flowers open about the third week in June, and for some time thence the immense white panicles form one of the most conspicuous features in the vegetation of our lanes. Some plants are perfectly glabrous, but others have stems and leaves covered with a thick coating of short woolly hairs.

358. G. saxatile, L. Heath Bedstraw.

Native ; on commons, moors, dry or stony banks in the wilder tracts, in open spots in woods, and in old pasture land on the coast. Common, though somewhat locally so, from the progress of cultivation. June, July.

- c. I. Between Hessenford and Seaton. Sheviock Wood. Pillaton. Cadsonbury.
- II. Mount Edgcumbe, on the turf and by the walks ; *Keys, Fl.* iii. 52. Between St. Mellion and Etheric. Between Ashland and Harrowbarrow.
- d. III. Roborough Down ; *Keys, Fl.* iii. 51. Postham Wood. Beer Ferrers. Sampford Spiney.
- IV. Near Thornbury and Common Wood, Egg Buckland. Hemerdon Ball. Sheepstor. Near Cadover Bridge.
- V. Wembury. In a brake near Elburton. Above the coast near Lambside. Lutton. Crownhill Down.
- VI. In furzy ground above Bigbury Bay, at Kingston. Wood by the Erme near Eford. Between Ivybridge and Harford.

One of the commonest of plants in the unenclosed moory tracts. In some of the highly cultivated parts not to be seen for miles together.

359. G. palustre, L. Marsh Bedstraw.

Native ; in marshes, by ditches, streams, and in other damp spots. Very common. July to September.

- c. I. Seaton Valley. Near Antony. Trematon. Meadow at Polscove (*c. Witheringii*). Tiddy Valley. Viverdon Down.

- II. Damp spot by the roadside between Kingsmill and Cargreen (*Witheringii*).
 d. III. By both the leats at Pennycross. Budshead. Denham Bridge. Bank of the leat near Yelverton entrance-gate, Roborough Down (*Witheringii*).
 IV. Egg Buckland. Bickleigh Vale. Meavy. Sheepstor.
 V. Revelstoke. Westlake Green. Blackpool. Cornwood.
 VI. Efford. Gutsford Bridge. Ivybridge; on the moor near Pithill, var. *elongatum*.

? **G. uliginosum**, L. *Rough Marsh Bedstraw.*

Absent, or very rare.

- d. IV. Bickleigh; *Keys, Fl.* iii. 52.
 VI. Ivybridge; *Miss Lothman*; *ib.*

I suspect a form of *G. palustre* has been mistaken for this. The only places in Devon where I have ever seen it are on Haldon and near Ashton, in the neighbourhood of Exeter. In Cornwall I have never met with it.

360. G Aparine, L. *Goosegrass*; ‘*Clider*.’

Native; in hedges, thickets, woods, and as a weed in cultivated land. Very common. May to October. Area general.

Occurs on hedge-banks close to the town. I suppose the local name ‘*Clider*’ to be a corruption of Cleaver, a name bestowed on the plant because of its power to cleave or stick to foreign bodies by means of its prickles and bristly fruit.

361. G. tricorne, With. *Rough Corn Bedstraw.*

Colonist; in dry or sandy tillage fields. Rare and local. June to September.

- c. II. Plentiful in one part of a wheat-field between Trevol and St. Johns, July, 1865; *Jour. Bot.* iii. 350. Again among wheat in the same locality, 1866; also 1869.
 d. IV. A plant by a path in a field near Down Thomas, July, 1865: one or two in the same neighbourhood, 1866. One in a field at Common Wood, 1867.
 V. Many plants, with other agrarian weeds, in a spot in a field close to where corn had been recently stacked, between Wembury and Brixton, July, 1870. Many among wheat between Puslinch and Westcombe, Newton Ferrers, June, 1873. Among mangold wurzel in a field near Bridgend, September, 1875. Rather plentiful in a field of oats near Creacombe, Holbeton, July, 1873. A few plants with mangold wurzel in a field between Goodamoor and Lutton, September, 1879. Single plants seen elsewhere in this District.

First record: *Briggs*, 1865.

G. erectum, Huds. Error, probably. Near Plymouth. Mr. G. Banks has sent me specimens agreeing in every particular with the *E. B.* plant, except that the leaves are all minutely, but distinctly and thickly, downy on the underside; *Hook., Brit. Fl.* ed. 2, 65, 1831. The station is also given in *N. Bot. Guide*, 19, and by the Rev. W. S. Hore, in *Phyt.* i. 163.

ASPERULA, L.

362 *A. odorata*, L. Sweet Woodruff.

Native; in damp woods and on banks. Rare, and very local. May, June.

D. III. Warleigh (Warleigh) Wood; *Fl. Dev.* 26; in plenty! Maristow; *Keys, Fl.* iii. 49. In a low damp wood between Lophill and Denham Bridge, also in a large wood on the Beer side of the Tavy.

IV. Abundant in the woods on both sides of the Plym, particularly in Bickleigh Vale; *Keys, ib.* I have seen it in wooded spots about Rumble, also in the vale between Fancy and Common Wood, and in Fancy Vale. Bank in a field at Derriford, and on a hedge-bank near Stoneybridge, Egg Buckland; extending for some yards in both places. Hedge-bank in Colebrook village; perhaps from a garden.

V. In plenty on a hedge-bank near the village of Cornwood.

VI. Godwell, near Ivybridge, 'but doubtfully wild;' Miss Lothman; *Keys, ib.*

A. arvensis, L. Casual. A few yards within the left-hand gate, at the end of Longbridge, Saltram; *Banks, Fl.* part 8; *Jacob, Fl.* part 12, with coloured plate. Found by the Rev. C. A. Johns at the above station in 1830, but the Rev. W. S. Hore, writing in *Phytologist* (i. 162), in the year 1841, says that at that time it had disappeared.

SHERARDIA, L.

363. *S. arvensis*, L. Blue Field Madder.

Native or Colonist; on dry banks, by roadsides, and as a weed in cultivated land. Very common. April to November. Area general.

Found all over the cultivated and enclosed portions of the area. A variety with white flowers seen near Staddiscombe (District iv.), and near a limestone quarry between Yealmpton village and Puslinch (v.).

VALERIANACEÆ.

CENTRANTHUS, DC.

364. C. ruber, DC. *Red Valerian.*

Alien ; but now established in many places on walls and in rocky or stony places about villages and houses. Rather common. May to October.

- c. I. Bank near a house at Trewandra, 1874.
- II. Near Millbrook, by the road to St. Johns. Wilcove, on both a wall and slaty bank. Wall by a garden, Carkeel, near Botus Fleming.
- d. III. Very plentiful in the neighbourhood of Devonport and Plymouth; *Jacob, Fl. part 15.* Rocks at Longroom Point, and elsewhere at Plymouth ; *W. A. Bromfield, MSS.*; *N. Bot. Guide*, ii. 551. Wall, Townsend Hill, 1880.
- IV. On walls at Compton ; *Keys, Fl.* iii. 53. Wall, Tothill. Abundant on limestone rubble from the Turnchapel Quarries ; also at Pophlet.
- V. Wall, Spriddlestone. Yealmpton village, in plenty.
- VI. Caton ! ; *Keys, ib.* Kingston, on a wall in the village. Mothe-combe, on walls near the old Manor House.

First record : *Jacob*, 1836.

VALERIANA, L.

365. V. officinalis, L., inclusive of *b. sambucifolia*, M.

Native ; in damp spots, woods, and on moist bushy banks. Common. June, July, and sometimes later.

- c. I. Between Hessenford and Caracawn Cross. Between Heskyne Mill and Cutmere Bridge. Latchbrook, &c., St. Stephens.
- II. Botus Fleming. Between St. Mellion and Halton Quay. Cotehele.
- d. III. Neighbourhood of Denham Bridge. Beer Ferrers. With pure white flowers, as well as with the ordinary tinted ones, between Weston Mills and Honicknowle.
- IV. Saltram ; Bickleigh ; *Keys, Fl.* iii. 54. Plym Valley.
- V. Yealm Bridge. Plymouth and Ivybridge Road. Cornwood.
- VI. Between Ermington and Ugborough. On the moor near Harford Bridge.

I have failed to distinguish *V. Mikanii* from *V. sambucifolia*.

VALERIANELLA, Tournef.

366. V. olitoria, Moench. *Common Lambs' Lettuce.*

Native ; on earthy banks and walls, and as a weed in arable land. Very common. April, May, and sometimes much later. Area general.

One of the most frequent species in the immediate neighbourhood of Plymouth, occurring in Furze Hill Lane, Cemetery Road, &c.

367. V. carinata, Lois. *Carinated Lambs' Lettuce.*

Native ; on dry banks and walls, and as a garden weed. Rather common. April, May, and sometimes later.

- c. I. St. Germans ; in plenty on a wall and by the roadside below, 1878.
- II. Forder, Rame ; *Rev. A. Ley*, 1876 ; specimens sent to *Bot. Ex. Club*. In abundance on a wall by Rame Churchyard, 1877. Between Rame and Penlee Point. Millbrook. Higher Tregantle. Hay Lane, near Torpoint. Saltash, by the lower Callington Road. Calstock.
- d. III. In field hedges at Pennycomequick, between that and Pennycross, at Boldventure, and about Weston Mills and Honicknowle. Near Pounds. Torr Grove, as a garden weed with *V. olitoria*. Tamerton Foliot, in many places. In fair quantity on a wall and hedge-bank, a quarter of a mile from Horrabridge, on the road to Tavistock, 1879. [Wall by Tavistock Road, opposite Mannamead, 1877 ; destroyed by building shortly afterwards.]
- IV. Furze Hill Lane ! *Mr. Ralſ*, 1876. Hoe, Plymouth. Higher Compton. Crabtree. Knackersknowle. Leigham, Estover, Fursdon, &c., Egg Buckland. Gabber, Wembury. Between Billacombe and Elburton, and elsewhere near Plymstock.
- V. Wall close to Brixton village, and a plant or two between that and Chittleburn, May, 1878.
- VI. In some quantity on a wall at Holbeton, by the road to the foot-way across the Erme at Orcherton, June, 1878.

Though recorded as a Devonian plant, by the late Mr. A. Henfrey, so long ago as 1849, from his having found it near Dawlish, it continued to be unnoticed or confused with *V. olitoria* in the Plymouth area until 1876, when the Rev. Augustin Ley detected it at Forder (District II.), and Mr. Ralſ in a lane close to Plymouth. The latter drew my attention to it, and it will be seen that I have since found it spread over a great extent of country. It is certainly as much a Native as *V. olitoria*, occurring under precisely similar conditions. The two sometimes grow together. (See *Bot. Ex. Club. Rep.* 1876, 20.)

368. V. Auricula, D.C. *Sharp-fruited Lambs' Lettuce.*

Colonist ; in dry or sandy fields among corn and other crops, and rarely on banks. Rather common. June to September.

- c. I. Wall-top between the lodge by Antony grounds and the village, June, 1871. Corn-field between Quethiock and Hammett Down, with *V. dentata*, July, 1869. Near Narkurs, with *V. dentata*, August, 1874. In two oat-fields between Port Wrinkle and St. Germans Beacon, August, 1875.

- II. Lindulph (Landulph), *Rev. R. T. Bree*; a specimen of this is in Mr. Borrer's Herbarium, sent by Mr. Bree, as *V. dentata*; *Hook. Brit. Fl.* ed. 3, 24. Neighbourhood of Antony and St. Johns, 1865, 1875, &c. &c. In plenty under a hedge-bank by Hay Lane, near Trevol, 1875.
- d. III. Plymouth and Saltash Road; on banks in two or three spots, with *V. dentata* in larger quantity, 1866, and subsequently. A plant in a corn-field by Southaway Lane, Tamerton Foliot, 1872.
- IV. Near Pophlet, in cultivated ground and on earth-capped walls. Between Down Thomas and Wembury. Among mangold wurzel in a field between Elburton and Plympton, 1866. Clover-field at Fursdon, Egg Buckland, 1866.
- V. Wembury, among corn. Corn-field near Worsewell, Revelstoke, 1875. Wheat-field between Puslinch and Westcombe, Newton Ferrers, June, 1873; among barley near Lolesbury, 1875. In plenty among oats in a field at Chittleburn, Brixton, 1875. Near Halwell, 1871.
- VI. Near Kingston, 1865; in two fields of barley there, August, 1875. Corn-field above Bigbury Bay, near Mothecombe, 1873. In two near Efford, Holbeton, 1874.

Wherever this grows *V. dentata* is almost certain to be seen also, but the converse is by no means the case, as *dentata* is much commoner than *Auricula*. In 1879 I saw Mr. Bree's Landulph specimen in the Herbarium of the late Mr. Borrer, at Kew. With it is the note, "Broken as it is, take care of it; for I have no more in seed." Through the specimens forwarded thence by Mr. Bree this seems to have been first announced as a British species, by Sir W. J. Hooker, in *British Flora* ed. 3; 1835. It is mostly near the coast or in the vicinity of tidal waters that *V. Auricula* occurs.

369. *V. dentata*, Koch. *Narrow-fruited Lambs' Lettuce.*

Colonist; among corn or other crops, and sometimes on earth-capped walls, or banks near arable land. Very common. Latter part of May to September.

- c. I. Plentiful in the corn-fields near Crafthole; *Jones, Tour*, 16. St. Germans. St. Mellion. Quethiock.
- II. St. Johns; *Jacob, Fl.* part 11; near there with both rough (var. *mixta*) and smooth fruit, 1867. Saltash; *Keys, Fl.* iii. 56. Rame; *mixta* there, 1875.
- d. III. Plymouth and Saltash Road. Tamerton Foliot. Beer Ferrers. Between Roborough Down and Walkhampton.
- IV. Shaugh; *Jacob, ib.* Plymstock. Near Down Thomas. Egg Buckland. Near Newnham.

V. Wembury. Newton Ferrers. Revelstoke. Battisborough. Cornwall.

VI. Mothecombe. Kingston. Holbeton. Ivybridge.

First record : *Jones*, 1820.

V. eriocarpa, Desv. *Hairy-fruited Lambs' Lettuce.*

Colonist ; on and near a very dry hedge-bank above the coast.

Very rare. June to August.

c. II. Some dozens of plants on a hedge-bank, or wall of stone and earth, by a barley-field at Rame, extending for two or three yards, and growing principally in one or two large patches ; also five plants among barley in the field below, and two in a weedy spot between the corn and the hedge-bank, July, 1875. Two or three hundred plants in flower on the hedge-bank, where *V. olitoria*, *V. carinata*, and *V. dentata* also occurred, June, 1877. At this date Mr. F. J. Hanbury and I discovered at least sixty specimens on a dry hedge-bank by the field immediately below.

I have inserted this plant here, but without a number, as it is among the 'Excluded Species' of the *London Catalogue of British Plants*. It seems to be at least established at Rame. Dr. Boswell has pronounced it to be 'the ordinary form' of *V. eriocarpa*. (*Rep. Bot. Ex. Club*, 1875, 19.)

First record : *Briggs*, in *Jour. Bot.* iv. N.S. 297, 1875.

DIPSACEÆ.

DIPSACUS, L.

370. D. sylvestris, L. *Wild Teasel.*

Native ; in dry or stony waste spots, and on banks. Rather common, although somewhat local. July to September.

c. I. Cliffs at Port Wrinkle. Crafthole. Seaton. Near Polscove. A single plant by the Saltash and Landrake Road, 1874.

II. Near Rame Church, and between Rame Head and Penlee Point. Millbrook. Neighbourhood of Torpoint. Between Kingsmill and Landulph.

d. III. Abundant in Stonehouse Quarry ; hedges about Pennycomequick ; *Banks, Fl.* part 6. Between Ford Park and the Plymouth Cemetery, 1874. Cutting by the railway at Stoke Damerel. Plymouth and Saltash Road. Ernesettle. Blaxton. Beer Ferrers.

IV. Abundant in Cattedown Quarries ! ; *Banks, ib.* On top of a hedge-bank between fields close to Mutley Plain, 1873. Lipson,

1879. Between Tothill and Laira. A common species on the limestone beds between Plymouth and Elburton. About Crabtree. Near Plympton St. Mary Church.

V. Newton Ferrers ; *Keys, ib.*; seen in that neighbourhood between Bridgend and Collaton Cross, and near Preston farm-house. Langdon and Wembury. Brixton.

VI. Ringmore. Mothecombe and Pamflete. Flete.

Apparently absent from the colder and semi-moorland tracts. Partial to calcareous and clayey soils.

First record : *Banks*, 1830.

SCABIOSA, L.

371. S. succisa, L. Devil's-bit Scabious.

Native ; in turf bogs, meadows, open places in woods and copses, on moors, peaty commons, and banks. Very common. August to October.

- c. I. Some plants with very light flowers between Polscove and Sconner, 1873. Viverdon Down ; some with flesh-coloured flowers, as also in a pasture near, together with a plant with white flowers, 1875. Two with white flowers, among others, near Pillaton, 1875.
- II. St. Johns ; seen here with white flowers. Maker. Near Kingsmill.
- d. III. Bank by the Plymouth and Saltash Road, near the Devonport Workhouse. About half-a-dozen plants with white flowers, amongst others, in a pasture in the Tavy Valley ; one or two with light pink, among others, near Denham Bridge, 1875.
- IV. Between Billacombe and Elburton. A plant or two with the stem-leaves regularly toothed ; the upper ones very deeply so, near Plymbridge, 1869. Seen with pinkish flowers at Fursdon, Egg Buckland.
- V. Revelstoke, above the coast. Crownhill Down. Westlake Green.
- VI. Kingston. Hanger Down.

An abundant and very generally diffused species, except in the extensively arable tracts and well-drained and rich pasture lands, whence it has been driven by the operations of the agriculturist. It is one of the commonest plants in rough peaty meadows.

372. S. arvensis, Coul. Field Scabious.

Native ; on sunny banks, in dry pastures and corn-fields. Very common. June to September. Area general.

Extends over all the enclosed country. Seen with white flowers near Dowsland Barn (District iv.). Ordinary ploughings fail to destroy this deeply-rooting plant, and consequently it is often very conspicuous in

fields of corn. Here, when associated with *Centaurea Scabiosa* and *Papaver Rhœas*, the colours of the three contrast beautifully with that of the ripening corn.

C O M P O S I T Æ .

SILYBUM, Vaill.

373. S. Marianum, Gaertn. *Milk Thistle.*

Casual ; in waste spots and in fields. Very rare. June to September.

- c. I. Two small patches in a grass-field above the coast, near Seaton, June, 1869.
- II. A single plant in a field at Millbrook, in a spot whence earth or manure had apparently been removed, July, 1870.
- d. III. Maristow, 1851 ; *Keys, Fl.* iii. 75. Eight or nine plants at Knackersknowle, close to where some houses were taken down, 1870 ; a few by a footpath there, 1875.
- IV. Sparingly in a cattle-shed by a meadow, close to Egg Buckland village, 1859 ; soon after it died out. Half-a-dozen young plants, with turnips, in a field at Fursdon, Egg Buckland, probably brought with manure or sown with the crop, 1873.

CARDUUS, L.

374. C. tenuiflorus, Curt. *Slender-flowered Thistle.*

Native ; in dry waste or sandy spots, about the borders of fields and on hedge-banks, mostly near salt water. Locally common. Part of May to July.

- c. I. Port Wrinkle. Seaton. St. Stephens. Below Screasdon Fort.
- II. Above Whitsand cliffs. Rame. Between Torpoint and Trevol.
- d. III. Between Plymouth and Milehouse, and elsewhere by the road to Saltash. Ford Park, Plymouth. Richmond Walk, and elsewhere about Devonport and Stoke. Beer Ferrers.
- IV. Hoe, and under the Citadel, Plymouth, in which situations the var. *pycnocephalus*, Jacq. (*C. tenuiflorus*, var. *elongatus*, Duby.), also occurs ; *Keys, Fl.* iii. 73. Above the coast between Bovisand and Wembury. Cattedown, and on the limestone between the Plym estuary and Plymstock village. Crabtree.
- V. Wembury ; *Keys, Fl. ib.* Above the coast between Revelstoke Church and Lambside, also near Worsewell and Bridgend. Newton Ferrers.
- VI. Above Bigbury Bay between Kingston and Ringmore. On the Kingston side of the Erme estuary.

This species is quite submaritime, being unknown in our inland parishes. It springs up soon after the seeds fall, and flowers the succeed-

ing summer. The variety occurring under the Hoe, mentioned by Mr. Keys, grows with the ordinary plant. I sent it to Mr. H. C. Watson in 1878, and he wrote respecting it, "By the tomentose pericline this should go to *C. albidus*, Bich., *fide* DC. Prodr., which so distinguishes *C. albidus* from *C. pycnocephalus*. Both are there placed as vars. of *C. tenuiflorus*. But, setting aside the tomentose involucre, your specimen is nearer *pycnocephalus*." Dr. Boswell says it has the spines of the leaves much stronger than in any of his Continental specimens of *pycnocephalus*. Growing with ordinary *tenuiflorus* under the Hoe, it looks considerably different, from its more slender habit, less aggregated anthodes, and other peculiarities; which features are maintained year after year.

375. *C. nutans*, L. Musk Thistle.

Native; in waste spots and in pastures. Common. Part of June to September.

- c. I. Between Crafthole and St. Germans Beacon. Seaton. Polbathick. Between Heskyn and Cutcrew.
- II. Whitsand Bay; *Keys*, Fl. iii. 73. Four plants with white flowers in sandy ground near Tregantle Fort, 1864. About half-a-dozen, intermixed with others, at Penlee Point, 1875. St. Johns. Antony. Cargreen.
- d. III. Battery Hill, Stonehouse, 1878. Prospect. Between Weston Mills Lake and Saltash Passage. Knackersknowle. Blaxton. Beer Ferrers.
- IV. Townsend Hill, Plymouth, 1852; Longbridge; *Keys*, ib. Plymstock. Fursdon, &c., Egg Buckland.
- V. Between Staddiscombe and Knighton. Above Bigbury Bay near Lambside. Revelstoke. Hareston.
- VI. Pamflete; *Keys*, ib. Above Bigbury Bay between Kingston and Ringmore. Mothecombe.

376. *C. crispus*, L. Welted Thistle.

Native; on banks, in bushy waste spots and in pastures. Rare, and very local. Part of June to September.

- d. IV. On the limestone between Pomphlet and Elburton; at Billacombe, near Hay farm-house, &c. Apparently only as an introduction on the Devonian slates; six or seven plants above the tramway near Leigham Mill, July, 1868; a single one, September, 1872. Several dozens on a bank near Shalaford, a quarter of a mile from Crabtree, growing amongst wheat sown on the bank, June, 1871.
- V. In many spots on and about the Yealmpton and Yealm Bridge limestone beds.

I have never met with this in Cornwall. In July, 1871, I found a series of plants in a pasture between Hay farm-house and Elburton, pre-

senting intermediate characters between this species and *nutans*, with both of which they were growing. I have since found a thistle with similar features in an old limestone quarry in the same neighbourhood. (See *Bot. Ex. Club. Rep.* 1872-74, 26.)

377. *C. lanceolatus*, L. Spear Thistle.

Native; in waste spots, pastures, on banks, and in recently-cleared woods. Very common. July to September. Area general.

May be seen close to the town of Plymouth, and on commons about Dartmoor, as well as in pastures by the coast. A plant with flowers of light rose colour below Kit Hill, August, 1879.

378. *C. palustris*, L. Marsh Thistle.

Native; on damp banks, in meadows, marshes, and bogs. Very common. June to September. Area general.

Extends over both the open and enclosed country. A variety with white flowers is rather frequent, and has been seen in the six Districts, in the open as well as the enclosed tracts. When the flowers are coloured the tint varies from very light to dark dull purple, though this last is the ordinary colour.

379. *C. arvensis*, Curt. Creeping Plume Thistle.

Native; in pastures, waste spots, on hedge-banks, &c. Very common. July to September. Area general.

This extends from the coast to Dartmoor. Seen with white flowers near Cawsand; at Rame (District II.); and with whitish near Egg Buckland (IV.), and at Wembury (V.), &c.

Hybrid *Nutanti-arvensis*? Roadside between Gutsford and Modbury, September, 1876. A single plant only. This I sent to Dr. Boswell with the following remarks: "Of very peculiar appearance when fresh. Notice the shortly-winged stem; the peculiar florets and anthodes, the latter drooping from their weight; and the biennial-looking root." Dr. Boswell remarked on it: "A very puzzling plant, evidently a hybrid, of which one of the parents is *Carduus arvensis*; the other some thistle with a winged stem and larger heads, quite possibly *C. nutans*. If it be *C. nutanti-crispus*, it is remarkable that the pappus should retain the very long secondary hairs, which are as long as, though fewer in number than, in *C. arvensis*." (*Bot. Ex. Club Rep.* 1876, 21.)

C. eriophorus, L. At the Devil's Point, Stonehouse. T. W. Gissing in *Phyt.* i. N.S. 28. Error probably. Not recorded thence by any one else, although a spot often visited by botanists. Mr. Gissing was there in June, 1855. Keys speaks of it as 'frequent' in Devon, which it certainly is not.

CARLINA, L.

- 380. C. vulgaris, L.** *Carline Thistle.*

- Native ; on elevated commons, in old pasture land on the coast, and on limestone rubble heaps. Rather common. July, August.
- c. I. Between Tregantle and Crafthole, and near Downderry. Between Sheviock and Trerulefoot Middle-gate. In heathy ground near Clapper Bridge.
 - II. Mount Edgcumbe ; Whitsand Bay ! ; *Keys, Fl. iii. 70.* Between Rame Head and Penlee Point.
 - d. III. Roborough Down. Near the church of Sampford Spiney.
 - IV. Hoe, Plymouth ; Bovisand ; Shaugh ; *Keys, ib.* On limestone rubble at Cattedown, and on the eastern side of the Plym estuary. On limestone near Elburton. Newnham Park. Pastures near Hemerdon Ball. Yannaton Down.
 - V. Wembury. Revelstoke, by the coast.
 - VI. Kingston, above the coast. By Meadowfoot Cove, Mothecombe.

ARCTIUM, L.

- 381. A. majus, Schkuhr.** *Greater Burdock.*

- Native ; in waste spots by roadsides, and in bushy places. Rare and local. July to September.
- c. I. One plant near Hessenford, by the road to the coast, 1873. Anthodes immature when it was found ; but the plant believed to be *majus*.
 - II. Under a hedge close to Cotehele Quay ; one plant, September, 1876 ; two in the locality, 1877. Two or three in an immature state, but believed to be *majus*, near the Weir Head, July, 1879.
 - d. IV. Shalaford, Egg Buckland, 1866, 1872. On or about hedge-banks, and by the road between Woodford Farm and Saltram ; both right and left of the turnpike road between Marsh Mills and Plympton, 1872, 1877, &c. In an old limestone quarry between Hay farm-house and the Plymouth and Totnes Road, in plenty, intermixed with *intermedium* and *minus*, August, 1872. A plant by the Plymouth and Totnes Road, near the third milestone from Plymouth, 1875.
 - V. Waste spot by the Plymouth and Totnes Road near Yealm Bridge. Near Brixton, by the road to Plympton ; *Jour. Bot. v. 310.*
 - VI. By the Plymouth and Totnes Road near Flete ; a peculiar form, with prolonged root-leaves ; referred to *majus* by Babington. This generally occurs in small quantity at any one spot.
First record : *Briggs*, 1867.

382. *A. minus*, Schkuhr. *Lesser Burdock.*

Native ; by roadsides, and in waste and bushy spots. Very common. July to September.

- c. I. Between Burraton and Notter Bridge, St. Stephens. Tideford.
- II. Trevol and Thanckes, near Torpoint. St. Johns. Moditonham. Saltash and Callington Road, near Botus Fleming. Calloget. Near Callington.
- d. III. Between Swilly and Ham. By the road from the Plymouth and Saltash Road to Bull Point.
- IV. Near Little Efford. Oreston. Near Elburton. Plym Valley, at Plymbridge.
- V. Above the Yealm estuary, Revelstoke. Above Bigbury Bay, near Lambside. Near Bridgend. With both purple and white flowers at Puslinch Bridge, 1873. Cornwood.
- VI. Between Ivybridge and Harford.

A Burdock bearing pinkish flowers occurs near Wacker (District 1.). It is a peculiar looking plant, but I think must be considered *A. minus*.

383. *A. intermedium*, Lange. *Intermediate Burdock.*

Native ; in waste spots, &c. Rare ? July to September.

- c. I. St. Germans Beacon, August, 1875. Between Hessenford and Seaton ; referred to *intermedium* with some doubt, as except in the size of the anthodes there appears little or nothing by which to distinguish it from *A. minus*.
- d. IV. In waste ground by an old limestone quarry near Hay farmhouse, not far from Elburton, August, 1872 : " *A. intermedium* without doubt. The elongate peduncles of the anthodes are, as far as I can see, the only constant marks of distinction between this and *eu-minus*." *Boswell*, in *Bot. Ex. Club Rep.* 1872-74, 27. Near Plymstock.

When *Arctia* specimens are brought together for comparison it is important to have all at about the same stage of development, since the anthodes appear considerably different when in flower to what they look in fruit. *A. intermedium* is a very unsatisfactory 'species.'

The old plant-name 'Harlock,' found in Shakespeare's *King Lear*, and used by Drayton, is supposed by Dr. Prior to belong to the Burdock. (See *Pop. Names Brit. Plants* ed. 2, 102.) He thinks it more correctly rendered Hardock, which I would question. Although I have never heard 'Harlock' employed here, it is interesting to find a derivative in use that proves the word to belong to a plant having heads or knobs. When a garment or some textile fabric has become creased or twisted into a lump it is said to be 'got up into a harl.' I believe 'Dock' to have been formerly employed somewhat generally for weeds with large undivided leaves, as we have 'Flappadock,' or 'Flapdock,' as a name for the

Digitalis. In the compound word Harldock, the difficulty of sounding both the *l* and *d* would of course soon cause one of them to be dropped.

SERRATULA, L.

384. *S. tinctoria*, L. Common Saw-wort.

- Native ; in bushy places, woods, copses, and on commons. Common. July to September.
- c. I. Near Hessenford. Wivelscombe. Wacker. Near Sheviock. Viverdon Down. Near Clapper Bridge.
 - II. Between Cawsand and Penlee Point. Hay Lane, Antony. Cliff by an inlet from St. Johns Lake. Anderton. Near Kingsmill. Near Dupath.
 - d. III. Manadon Wood ; *Keys, Fl.* iii. 71. Woodlands Wood. Cliff by a creek from Weston Mills Lake near Barn Copse, 1879. Warleigh Wood. Beer Ferrers.
 - IV. On limestone near Elburton. Woods of Plym Valley. Saltram Wood. Moor near Shaugh. Near Fancy. [Bickleigh Down.]
 - V. Between the Yealm Ferry and Noss. Between Dunstone and Holbeton. Between Gala Cross and Lolesbury. Near Slade. Crownhill Down.
 - VI. Saltercress, &c., Kingston. Pamflete, and near Efford, Holbeton. Between Ermington and Cadleigh. Ivybridge.

CENTAUREA, L.

385. *C. nigra*, L. Black Knapweed.

Native ; in pastures, on banks, and in waste grassy places. Very common. July to October. Area general.

An abundant species, sometimes seen in the turf of gardens in Plymouth. Specimens with white flowers found near Newnham ; near Fancy (District iv.) ; with all the florets more or less elongated in Districts i., iii., and v.

b. decipiens.

Locally common.

- c. I. Between Hessenford and Seaton ; a rayed form, which I refer to the variety with some doubt. Another, that seems slightly more unsatisfactory for *decipiens*, occurs at Wacker.
- II. St. Johns ; in a bushy pasture. Hedge-bank near Moditon Mill.
- d. IV. Mount Batten ; a striking plant, further removed from typical *nigra* than any of our others. Rocky bank at Lipson, with the ordinary form. Saltram.
- V. Between Carsewell and Lambside ; one plant with white flowers, 1874. Two between Dunstone and Holbeton.
- VI. Between Sequers Bridge and Kingston. Modbury. Ivybridge.

Rayed-flowered plants occur in other places than those mentioned above, but their characters seem too indefinite to pronounce them *nigrescens*. Even those growing at some of the stations named seem not to fully agree with the descriptions of *nigrescens*.

386. C. Scabiosa, L. Greater Knapweed.

Native ; on dry sunny banks, in poor pasture land, and in corn-fields. Common. June to September.

- c. I. Between Hessenford and Seaton. Between Polbathick and Cara-cawn. A variety with purplish-white flowers occurs with the type between Antony village and Wacker Mill. Pillaton.
- II. Hay Lane ; a plant with white flowers there, July, 1872 ; another seen between Torpoint and St. Johns. Between Tregantle and St. Johns. Between Etheric and Cotehele Quay.
- d. III. Near King's Tamerton ! ; *Keys, Fl. iii. 72.* Plymouth and Saltash Road. Blaxton. Beer Ferrers.
- IV. Cattedown. On the limestone east of the Plym estuary. A plant with white flowers between Pomphlet and Elburton, 1875. Crabtree, and between that and Plympton. In arable land at Common Wood, Rock, &c., Egg Buckland.
- V. Newton Ferrers. Yealmpton ; one plant with white flowers, growing with others, 1874. Near Lee Mill Bridge.
- VI. Kingston. Holbeton. Between Yealm Bridge and Ermington. Partial to the warm dry tracts.

387. C. Cyanus, L. Corn Blue Bottle, or Corn-flower.

Colonist ; among corn or other crops. Very rare and local. Part of June to October.

- c. I. Cultivated ground between Torpoint and St. Johns, July, 1861 ; *Phyt. v. N.S. 370* ; abundant in two fields of wheat, 1869 ; seen, July, 1875. In a field of grass at St. Johns, with *Chrysanthemum segetum*, and perhaps sown with the crop, July, 1875.
- d. III. Two plants in a waste piece of ground at St. Budeaux, with *Lathyrus Nissolia* and *Chrysanthemum segetum* near, June, 1869.
- IV. One in a field of mangold wurzel between Plympton and Elburton, August, 1866. Three among oats near Crabtree, October, 1865.
- VI. One plant in a field of oats near Lambside, August, 1875.

Only permanent in a very limited tract, above the northern shore of the tidal inlet of St. Johns Lake, where it has been known to occur for a considerable time. Here it seems decreasing, perhaps owing to improved farming. It is associated with several interesting species, *Galium*

tricornе, Valerianella Auricula, Specularia hybrida, Avena fatua, and Briza minor.

CHRYSANTHEMUM, L.

388. C. segetum, L. Corn Marigold.

Colonist or Casual ; among corn, potatoes, turnips, and other crops ; also casually by roadsides. Rare. June to October.

- c. I. Three plants in a waste spot in a field below Sreasdon Fort, July, 1871. One at Longlands, St. Stephens, July, 1871.
 - II. One among mangold wurzel at St. Johns, September, 1873 ; in considerable quantity there, July, 1875. Sparingly among corn near Tregantle Fort, July, 1876.
 - d. III. In many places, but mostly singly or sparingly, and perhaps nowhere permanent. Near St. Budeaux, 1869 ; field above Weston Mills Lake, 1879 ; near Blaxton ; waste spot near Denham Bridge, &c.
 - IV. Just as in District III. Field between Plymouth and Lipson, 1860. Knackersknowle, 1872, 1874. Plympton, 1872. Several in a field by Plymbridge Road, August, 1875.
 - V. One in a waste spot by the Plymouth and Totnes Road near Elburton, September, 1875. Another in a corn-field near Westcombe, Newton Ferrers. In considerable quantity in a barley-field at Dalamore, Cornwood, 1879.
 - VI. Caton ; Miss Lothman ; *Keys, Fl.* iii. 65. In fair quantity among potatoes above Bigbury Bay, below Kingston ; 1876.
- Often occurs singly ; and when otherwise, usually in small quantity.

389. C. Leucanthemum, L. Great White Ox-eye ; 'Horse Daisy.'

Native ; in dry, barren pastures, on rocky or dry banks, and in waste grassy spots. Very common. Part of May to September. Area general.

Often a pernicious plant in pastures with a thin soil. It sometimes occurs on turf in the town, as in the churchyard of Charles.

MATRICARIA, L.

390. M. Parthenium, L. Common Feverfew.

Denizen ; about the borders of cottage gardens, on walls, banks, and in waste spots near villages or houses. Rather common. June to September.

- c. I. Wall in Hessenford village, 1873. Near Tideford, not far from an old cottage. Leigh. About Trevollard Green, and near Antony Passage, St. Stephens. Near Pillaton Mill.
- II. Near an old farm-house between Forder and Rame Church. Torpoint. Wilcove. Penhale. Elbridge. Tinnel.

- d. III. Weston Mills ; near Tamerton ! *Keys, Fl.* iii. 64. King's Tamerton. Hedge-bank by an orchard at Burrington. St. Budeaux, near *Vinca major*. Blaxton. Holes Hole.
- IV. West Hoe, Plymouth, 1861 ; Crabtree ; *Keys, ib.* Lane by the grounds of Egg Buckland vicarage-house, with *Chelidonium* and *Anchusa sempervirens*. Near Newnham Lodge, Larkham Lane, and on a wall at Underwood, Plympton St. Mary.
- V. Brixton ; *Polwh. Hist. Devonsh.* i. 93, 1797. Langdon. Near Netton farm-house, Revelstoke, with *Melissa* near. Lynham. Hornicombe, and East Sherford, Brixton.
- VI. Sparingly close to Efford, Holbeton, 1874. A plant or two on a hedge-bank near some old houses at Carsewell, 1873. One near Pamflete, 1874.

This mostly occurs with other Denizen, or else decidedly Alien, species. It seldom is abundant, although persistent, at its stations.

391. M inodora, L. Scentless Mayweed.

Native ; in waste spots by roadsides, on the borders of fields, and on walls, especially in the vicinity of salt water. Common. July to November.

- c. I. Port Wrinkle. Seaton. Waste spot near Notter farm-house. Polbathick. Markwell.
- II. Calstock ! ; *Keys, Fl.* iii. 64. Above Whitsand Bay. Saltash and Callington Road. Antony.
- d. III. Pennycomequick, 1880. Saltash Passage. Between Tamerton Foliot and Knackersknowle. Blaxton.
- IV. Walls in Plymouth ; Higher Street, noticed for several years ; &c. On Laira Bridge. Crabtree. On slaty refuse at Rumble, Plym Valley. In arable land at Common Wood, 1872. Cove below Hay Brook Vale ; a maritime form, apparently var. *salina*, Bab.
- V. Revelstoke. Newton Ferrers. Elburton.
- VI. Ivybridge ; *Keys, Fl.* iii. 64. On both sides of the Erme estuary. Orcherton.

M. Chamomilla, L. Casual or Error. Marsh Mills, Longbridge ; Gould. ; *Keys, Fl.* iii. 64. The absence of this is remarkable.

TANACETUM, L.

392. T. vulgare, L. Common Tansy.

Denizen ; probably. In waste places and pastures near houses or gardens, and on hedge-banks. Rather common. August, September.

- c. I. Whitsand Bay ; *Keys, Fl.* iii. 66 ; probably between Tregantle and Crafthole ! Between Hessenford and Seaton. Cutmere.

- St. Winnolls. Between Landrake and St. Erney, and in St. Erney churchyard. Markwell. Near Moditon Mill.
- II. Lower Tregantle. Hedge-bank by Hay Lane, between Trevol and Antony. Near Millbrook. St. Johns. Hedge-bank between Saltash and Carkeel. On one near Wheatlands.
- c. III. Hedge-bank near St. Budeaux vicarage-house. Border of the lawn at Maristow. Hedge-bank by a fruit garden at Beer Ferrers.
- IV. Hedgebank between Radford and Plymstock. Between Plympton and Elburton. Down Thomas. Staddiscombe.
- V. Langdon. Calstone. Near Bridgend. Between Ridgway and Lee Mill Bridge. Hedge-bank near a house between Cornwood railway station and the village.
- VI. Mothecombe. Carsewell. Holbeton, near the village. Abundant on the border of a field and on an adjoining hedge-bank at Pamflete. Close to Kingston village, and in two or three places between it and Sequers Bridge. Modbury.

Possibly indigenous in a few places, though for the most part clearly not so, but derived from ancient cultivation.

ANTHEMIS, L.

393. A. *Cotula*, L. *Stinking Mayweed*.

Colonist; among corn and other crops, and in waste places near cultivated land. Rather common. June to October.

- c. I. Sheviock. Polbathick and Tregunnus, St. Germans. Pillaton. Derniford.
- II. Between Torpoint and St. Johns; *Keys, Fl.* iii. 63. Antony, by the turnpike road, 1873. Saltash and Callington Road, near Burraton Gate, 1873.
- d. III. Knackersknowle. Tamerton Foliot.
- IV. Forder, Egg Buckland. Near Shaugh Bridge, 1874.
- V. Near Wembury! *Keys, ib.* Revelstoke. Corn-fields between Puslinch and Battisborough.

Not noted for District vi., but doubtless it occurs within it. The odour of this plant is very strong, much like that of ground coffee, though less agreeable; that of *A. arvensis* is different. Occasionally *A. Cotula* has some of the ray florets furnished with styles, though the contrary has been asserted.

394. A. *arvensis*, L. *Corn Chamomile*.

Colonist; amongst sown grasses, clover, and corn; and on the borders of cultivated fields. Rather common. May to September.

- c. I. Field near Landrake, 1869. In one below Screasdon Fort, 1871.

- II. In a field of fodder grasses, &c., between Torpoint and St. Johns.
 1872. Between Moditonham and Kingsmill, 1879.
- d. III. Between Plymouth and Saltash Passage, and near Pennycross,
 1870. King's Tamerton, 1879. Knackersknowle. Blaxton,
 1871, 1875.
- IV. Between Plymouth and Cattedown, 1875. Plymstock. Crabtree.
 Leigham.
- V. Langdon. Battisborough. Near Elburton. In a waste spot by
 an old quarry near Gorlofen, Brixton, 1871.
- VI. Kingston, and between that and Ringmore. Near the Anchorist
 Rock, 1874. Pamflete. Ermington, on a wall-top, 1874.
 Hedge-bank between Ermington and Ivybridge, 1869. Harford.
 The odour of this is not so strong as that of *A. Cotula*.

395. *A. nobilis*, L. Common Chamomile.

Native ; on commons, and in waste turf spots and sandy pastures.
 Rather, though locally, common. July to September.

- c. I. Viverdon Down. Cadsonbury. Near Callington.
- II. In waste ground between St. Johns and Millbrook.. Turfy waste
 spot, Tregantle. By the inlet at Kingsmill, perhaps introduced.
 [Very sparingly in a waste turf spot at Carbeal, near
 Torpoint, 1875.]
- d. III. Tavy Valley, opposite Lophill. Near Beer Ferrers village. Waste
 spot near Horrabridge station.
- IV. Banks of the Meavy, below Meavy ; *Rev. Mr. Tozer, Fl. Dev.*
 141 ; ! 1869. Shaugh ; *Keys, Fl.* iii. 63. Riverford, Plym
 Valley. Fancy. In abundance by a road to Shaugh from
 Roborough Down. On Crownhill Down, near Fernhill, &c.
 Bickleigh Down.
- V. Cornwood ! ; *Keys, ib.* In turf ground above Bigbury Bay, near
 Lambside. Preston. Marsh just above Puslinch Bridge.
 Westlake Green. Stretchley. Enclosure below Hanger Down.
- VI. In waste turf ground at Carsewell.

This seems to prefer to grow on such parts of commons as are near enclosures. Ascends to 600 feet in District iv.

First record : *Jones and Kingston*, 1829.

ACHILLEA, L.

396. *A. Millefolium*, L. Common Yarrow.

Native ; in pastures, on open commons, banks, and in waste
 turf spots ; sometimes on walls. Very common. June to
 October. Area general.

May be seen on walls in Plymouth, and in the turf of the churchyards,
 as well as on the open commons of the area ; growing in all kinds of soils.

397. **A. Ptarmica, L.** *Sneeze-wort Yarrow.*

Native ; by damp roadsides and in moist pasture land. Rather common. July to September.

- c. I. Between Antony Passage and Trevolland ; *Keys, Fl.* iii. 62. Damp spot between Notter and Moditon Mill. Sheviock. Near St. Mellion. Near Clapper Bridge.
- II. St. Johns. Between Inceworth and Southdown. Saltash and Callington Road, and in a clayey field near Hatt. In an enclosure from Hingston Down.
- d. III. By the Plymouth Leat at Pennycross. Between St. Budeaux and Knackersknowle. Marsh by the Tavy, Beer Ferrers. Vale below Inchers.
- IV. Meadow below Saltram gardens. Fursdon, Derriford, and Common Wood, Egg Buckland. Between Plympton and Brixton. Close to the leat weir at Sheepstor. Near Dowsland Barn.
- V. Membland. Between Dunstone and Creacombe. Stretchley. Between Lee Mill Bridge and Cadleigh.
- VI. Ivybridge ! ; *Keys, Fl.* iii. 62. Between Ermington and Cadleigh.

ARTEMISIA, L.

398. **A. Absinthium, L.** *Common Wormwood.*

Denizen ; in waste places and on dry banks, almost always near old houses or villages. Rather rare. August, part of September.

- c. I. Trevolland ! ; between Polbathick and Hessenford ; *Balkwill* ; *Keys, Fl.* iii. 65 ; seen about Caracawn in plenty. About Downderry and at Tregunnus. Waste spot by Pillaton Mill. One plant by a road in Landrake village, 1873.
- II. Weir, Millbrook, very near a house.
- d. III. Junction of the Maristow and Blaxton Roads ; *Gou'ding and Harper, S. D. Lit. Chron.* 131 ; occurs near Blaxton farm-house. One plant at Lophill, 1862.
- IV. A plant on a bank by Hey Brook Lane, near Down Thomas. Two in clefts of limestone rock in a quarry close to Hay farm-house, 1867 ; four or five in a field near, 1871.
- V. Wenbury ! ; *Keys, ib.* ; near Langdon Hall, &c. In plenty near Preston farm-house. About Worsewell, Revelstoke, plentifully. About a farm-house between Carsewell and Lolesbury. In fair quantity in a field near Cornwood village, 1878.
- VI. Ringmore, close to the village. In waste turfy ground near old houses at Carsewell.

First record : *Goulding and Harper*, 1846.

399. **A. vulgaris, L.** *Mugwort.*

Native ; in waste spots and on hedge-banks. Common. August.

- c. I. Markwell. Tideford. Trewandra. St. Winnolls. With narrow leaf-segments near Broadmoor, St. Stephens.
- II. Near Cawsand ; Rame ; *Keys, Fl.* iii. 66. Near Tregantle. Antony. Between Cargreen and Tinnel ; with the segments of the leaves very narrow.
- d. III. Between Mutley and Burleigh. Ham Lane. St. Budeaux. Blaxton.
- IV. Cattedown. Plymstock. Goosewell and Shalaford. Egg Buckland.
- V. Newton Ferrers ; *Keys, ib.* Revelstoke. Langdon. Brixton.
- VI. Mothecombe. Orcherton. Ermington.

Often occurs near houses, and in situations where it may have spread from ancient cultivation. It formerly had a medicinal reputation.

FILAGO, *Tournef.*

400. F. germanica, L. Common Cudweed.

Native ; by roadsides in open situations, in stony waste spots, on earth-capped walls, and as a weed in dry or barren fields. Very common. July to September. Area general.

Occurs in the warm coast tracts as well as in the semi-moorland ones. Noticed at Devil's Point, Stonehouse, in 1872. A specimen gathered on a wall-top near Maristow, in 1871, comes near *F. spathulata*, Presl.

401. F. minima, Fries. Slender Cudweed.

Native ; in dry waste spots and on commons. Rare. July to September.

- c. II. In dry spots on the hilly unbroken sea-bank above Whitsand Bay, between Rame Head and Lugger's Cave, growing with *F. germanica* ; in considerable quantity, but very local.
- d. III. Roborough Down, 1860, 1869.
- IV. Shaugh Bridge ; *F. H. Goulding*, 1855 ; *Herb. Bellamy*. On slaty soil about Rumple and Cann Quarries, in the Plym Valley ; with *F. germanica*.
- V. In considerable quantity, but over a very limited extent of ground, on the sides of a cart-way near one of the clay-pits on Crownhill Down, July, 1878.

GNAPHALIUM, L.

402. G. uliginosum, L. Marsh Cudweed.

Native ; in waste spots where water occasionally settles ; about ponds and pools on commons, and by roadsides. Very common. July to September. Area general.

Occurs both in the enclosed and open portions of country. Sometimes appears as a weed in damp tillage fields.

403. G. sylvaticum, L. *Upright Cudweed.*

Native ; in moorland pastures and heathy ground. Very rare.
August, September.

- d. III. Three plants in a small hollow on Roborough Down, near Maristow Lodge, June, 1871 ; a few still there, 1873 ; none to be seen, 1874.
- IV. Shaugh Bridge ; *Hore*, *Phyt.* i. 163 ; two specimens, *F. H. Goulding*, September, 1853 ; *Herb. Bellamy*. There are also two specimens in *Herb. Easton*, one collected by 'C. Harper,' but without any more precise statement of station than 'Plymouth ;' the other with 'Near Bickleigh Bridge' only. They were probably collected between 1845 and 1850.
- V. In two moorland pastures enclosed from Crownhill Down, in one plentifully, in the other sparingly, June, 1871.

This species seems to appear at intervals, on which account none of the above stations are bracketed, although it has not been seen very recently at any of them.

First record : *Hore*, 1841.

404. G. dioicum, L. *Mountain Everlasting.*

Native ; on an open heathy common. Very rare and local. May, June, or later.

- d. III. On Roborough Down, near the road to Buckland Monachorum from Roborough.
- IV. Near the Rock, on Roborough Down ; a few patches only : both the male and female plants.

This appears as a "Dartmoor" species in the list of plants in the Appendix to Rowe's *Perambulation of Dartmoor*, on the authority of Dr. Moore ; and with an additional one, 'Dr. Broughton,' is inserted as such in Ravenshaw's *Flora*.

SENECIO, L.**405. S. vulgaris, L.** *Common Groundsel.*

Native ; in cultivated ground, and in waste places. Very common.
Flowers nearly all the year. Area general.

To be seen in gardens and on walls in Plymouth ; on the sands of the shores, and over all the cultivated tracts of country.

var. S. vernalis, Walds. and Kitab. ? *Boswell in Bot. Ex. Club Rep.* 1876, 39, 40. (See also *Reps.* 1875, 19, 20 ; 1876, 22.)

- c. II. Rather sparingly ; a few dozens of small plants in sand blown from the shore up over a low cliff at Tregantle, Whitsand Bay, April, 1875. A striking plant, though I think but a variety of *S. vulgaris*, of dwarf habit, and heads with a ray of conspicuously patent ligulate florets at least one-third the length of the

anthodes in the fresh plant. Noticed again in the spring of 1876. Specimens more or less rayed were sent by the Rev. A. Ley to the Botanical Exchange Club in 1876, gathered in May of that year from two other stations, a couple of miles apart, above the shore of Whitsand Bay. (See *Bot. Ex. Club Rep.* 1876, 22.)

Mr. Watson observes in a letter to me : "I think Dr. Boswell would more rightly have named the Cork Groundsel as *S. crassifolius*, Willd., unless he deems *S. vernalis*, W. and K., a special form of *crassifolius*, which he does not say. The ray is longer than in radiate *vulgaris*, horizontal at first, and becomes revolute in the older (fertilized ?) heads. Here (Thames Ditton) it is quite hardy, and would become as troublesome a weed as *S. vulgaris* if allowed to seed freely." (June 7th, 1878.)

406. *S. sylvaticus*, L. *Mountain Groundsel.*

Native ; on dry or rocky banks, and on the borders of copses and heaths. Common. June to September.

- c. I. St. Stephens ! ; *Keys, Fl.* iii. 68. Hessenford. Between Pillaton and St. Mellion.
- II. Maker. Above Whitsand Bay. St. Johns.
- d. III. Between Pennycomequick and Pennycross, and about the latter place. St. Budeaux. Postham Wood, &c., Tamerton Foliot. Beer Ferrers.
- IV. Staddon Heights ; *Keys, ib.* Near Mount Gould, 1873. Old Exeter Road, near Laira Green. Widey. Leigham, Egg Buckland. Newnham.
- V. Langdon. Newton Ferrers. Revelstoke. Brixton.
- VI. Kingston. Mothecombe, and elsewhere about the Erme estuary. This sometimes springs up abundantly on a common after the furze has been burnt off it.

407. *S. erucifolius*, L. *Hoary Ragwort.*

Native ; on rubble heaps, and in waste spots about limestone quarries, by roadsides, and on banks. Rare, and very local. August, September.

- c. II. On a hedge-bank by the Mount Edgcumbe and Crafthole Road, very near the third mile stone from Mount Edgcumbe ; in plenty for at least three yards, 1870, and subsequently.
- d. III. A root or two on a bank by the Plymouth and Tavistock Road at Torr Grove, 1867, and subsequently. A plant by the Tamar near Holes Hole, doubtless introduced, 1871.
- IV. One plant on a hedge-bank by Linketty Lane, Widey, 1870 ; very near Torr Grove. Cattedown ; waste ground and on rubble heaps from limestone quarries by the Plymstock and Yealmpton

Roads ; *Phyt.* v. N.S. 369 ; it is plentiful near the Pomphlet Quarries. Between Plymstock and Elburton. Saltram embankment, sparingly. A large plant by the railway near Chaddlewood, 1865.

V. Kitley.

It will be seen that off the limestone beds this occurs very sparsely.

408. S. Jacobæa, L. Common Ragwort.

Native ; in waste spots, on banks, and by roadsides. Very common. July to October. Area general.

After *S. vulgaris* the commonest species of the genus. A specimen with rayless flowers ; Plymbridge Road (District iv), August, 1872. This variety or form was known to some of the earlier botanists. (See *With., Brit. Plants*, iii. 938, ed. 7.)

409. S. aquaticus, Huds. Marsh Ragwort.

Native ; in marshes and damp waste spots. Common. July to September.

- c. I. Seaton. Tideford. Polscove, and elsewhere near Sheviock. Polbathick. Near Carkeel. About Pillaton.
- II. St. Johns ; *Hore* ; Calstock ; *Keys, Fl.* iii. 70. Millbrook. Tregantle. Rame.
- d. III. Manadon Wood ; *Keys, ib.* 69. Between Honicknowle and Weston Mills, and near Woodlands Fort. Tavy Valley.
- IV. Between Goosewell and Staddiscombe. Plym Valley.
- V. Vale of Kitley Brook and at Kitley. Near Stretchley. Near Westlake. Near Slade.
- VI. Near Ringmore. Between Sequers Bridge and Kingston. Near Holbeton. Between Cadleigh and Ermington.

Doronicum Pardalianches, L. Widey. *Ravensh. Fl.* 37. *Keys, Fl.* iii. 68. Alien. Doubtless planted, with other introductions.

BIDENS, L.

410. B. cernua, L. Nodding Bur Marigo'ld.

Native ; in a swampy marsh. Very rare. August, September.

- c. I. In considerable quantity in a wet marsh or swamp in the Seaton Valley, between the coast and Hessenford, associated with *Menyanthes*, 1874.

The rarity of this and of *B. tripartita* is remarkable.

411. B. tripartita, L. Tripartite Bur Marigold.

Native ; in marshes, and damp or wet waste spots. Rare and local. August, September.

- c. I. Quethiock ; by a road in a vale between the village and Hammett

Down, 1869. In plenty in a marsh in the Notter Valley below Derniford, 1874.

II. Waste turf spot near Carkeel, 1875, 1879. Calloget Green, Landulph, 1879.

d. III. [Vale between Milehouse and Deadlake, Plymouth; *Banker*, 1853; Saltash Road; *Bartlett*, 1853; *Keys*, Fl. iii. 61.] A single plant in a muddy spot at Tamerton Foliot, 1864.

IV. Two in a marsh near Shalaford, Egg Buckland, 1863; three in the locality, 1872.

. INULA, L.

412. I. Helenium, L. *Elecampane.*

Alien; on a bank. Very rare. July, August.

c. I. A small patch on a bank close to the lawn of Trevollard House, St. Stephens, near bushes of *Berberis vulgaris*.

413. I. Conyza, DC. *Ploughman's Spikenard.*

Native; on dry banks, cliffs by the coast, and in bushy waste places. Common. July, August.

c. I. Hessenford. Tideford. St. Stephens. Sheviock. Pillaton. Que-thiock.

H. Calstock!; *Keys*, Fl. iii. 61. Cliffs by Whitsand Bay. Near Torpoint. Saltash. Botus Fleming. Landulph.

d. III. Devil's Point, Stonehouse, 1872. Between Mutley and Burleigh. St. Budeaux. Tamerton Foliot. Beer Ferrers. Buckland Monachorum.

IV. Plymouth; *N. Bot. Guide*, 20. Between Tothill and Laira. Bovisand Lane. Egg Buckland. Cattedown. Between Colebrook and Crownhill Down.

V. Newton Ferrers! *Keys*, Fl. iii. 60. Wembury. Revelstoke. Creacombe. Brixton. Between Ridgway and Ivybridge.

VI. Kingston, and between that and Ringmore. Mothecombe. Flete. Of general distribution except in the cold moory tracts. It ascends to 375 feet near Buckland Abbey.

First record: *Watson*, 1835.

414. I. crithmoides, L. *Golden Samphire.*

Native; on maritime rocks. Rare. July to September.

c. II. Various parts of Whitsand Bay, west of Lugger's Cave; *Jacob*, Fl. part 5; I have only found it sparingly in one part.

d. III. Staddon Heights, near the fort; *Jacob*, ib. Near Bovisand; *Hore*, in *Phyt.* i. 163. Cliffs on the east side of Plymouth Sound; Warren. Bovisand; *Flower, Ravensh.* Fl. 35. These four records have reference, doubtless, to one station.

V. Revelstoke; *Julian*, in *Naturalist* iii. 118; *Keys*, Fl. iii. 61;

on a damp rock near Worsewell, rather sparingly, 1875; a plant looking like this also occurs on an inaccessible rock nearer Revelstoke Church.

In an old *Hortus Siccus*, published by 'Wm. Paine, Botanist,' with the date 1732, I have seen a small flowering specimen of this plant, labelled, 'Sea Fleabane with a Samphire Leaf from Whitesand in Cornwall.' There are two places so named, and whether this refers to the one in District II., or to that near Land's End, I cannot say.

First record : *Jacob*, 1835.

415. I. dysenterica, L. Greater Fleabane.

Native ; in damp places by roadsides, about ditches, and in moist pastures. Very common. July to September. Area general.

Very frequent in damp spots by springs on the coast, and over all the enclosed country.

BELLIS, L.

416. B. perennis, L. The Daisy.

Native ; in pastures, on commons, and in other turf-y places. Very common. February to October. Area general.

The Daisy is one of the commonest species on the turf in Plymouth gardens, and seems to defy smoke. The rayless form noticed at St. Mellion, between Cawsand and Rame, at St. Budeaux, near Fancy, at Wembury, and near Kingston.

Erigeron canadensis, L. A specimen in *Herb. Easton*, labelled, 'Plymouth ; C. Harper.'

ASTER, L.

417. A. Tripolium, L. Sea-side Aster.

Native ; on mud-banks by salt water inlets and tidal rivers ; also in rocky or stony places by salt water. Very common. August, September.

- c. I. In plenty by the tidal waters of the Notter up to Notter Bridge, and by the Tidy to Tideford. The rayless form, *discoideus*, frequent ; by Forder Lake, Polbathick, Wivelscombe.
- II. By St. Johns Lake. Combe, near Saltash. Kingsmill. Halton Quay. Cotehele.
- d. III. Keyham, near Devonport ; *Keys, Fl.* iii. 59 ; abundant, 1879. By Stonehouse Mill Pond, below Deadlake Lane ; only one plant noticed, 1874. Weston Mill Creek. By Tamerton Lake. Beer Ferrers. Kinterbury ; type and *discoideus*.
- IV. Laira ! ; *Keys, ib.* Chelson Meadow. Radford.
- V. By Coffleet 'Lake.'
- VI. By the Erme at Efford, and near Cling Mill.

The flowers have an agreeable honey-like scent. The rayless form is common. Partially-rayed plants are also frequent.

SOLIDAGO, L.**418. S Virga-aurea, L. Common Golden-Rod.**

Native ; on rocky or bushy banks on the borders of copses and woods, and on masses of rock in open situations. Common. July to October.

- c. I. Sheviock. St. Germans. Near Tregantle. Tideford. Near Landrake. Pillaton.
- II. Calstock ! ; *Keys, Fl.* iii. 59. Cliff by Millbrook Lake. Near Saltash. Kingsmill. St. Mellion.
- d. III. Close to Weston Mills Lake, on a 'cutting' by the road to Keyham. Woodlands. Warleigh Wood, &c., Tamerton Foliot. Beer Ferrers. Sampford Spiney.
- IV. Saltram ; *Keys, ib.* Crabtree. About Plymbridge. Between Goosewell and Staddiscombe. Near Sheepstor.
- V. Between Dunstone and Holbeton. Between Gala Cross and Lolesbury. Kitley. Between Ermington and Cadleigh. Near Slade.
- VI. Between Mothecombe and Battisborough. Ivybridge.

The flowers of this plant attract various kinds of flies, and I have also seen a wasp obtaining food from them.

TUSSILAGO, L.**419. T. Farfara, L. Common Coltsfoot.**

Native ; by damp or clayey roadsides, on rubble heaps, and in poor or neglected fields. Very common. February to April. Area general.

Grows close to Plymouth by the line of the railway, and so long ago as 1830 was recorded by Banks from "Trenches about Devonport," and "Gunwharf." He speaks of it as "the first plant that vegetates in limestone rubble, the first to ornament with flowers, and to enliven with broad foliage, the wastes and numerous naked mounds in and about the public works and quarries of our neighbourhood." By the second week in April this early-flowering plant is shedding the seed of the first flowers.

PETASITES, Tournef.**420. P. vulgaris, Desf. Common Butter-bur.**

Native ; in low damp ground. Rare. Part of March to part of May.

- c. I. By the river side between Hessenford and Seaton ; *Pascoe, Phyt.* ii. 943 ; ! 1874.
- II. Near Weir Head ; *Gould. and Harper, S. D. Lit. Chron.* 141. In orchard ground at St. Johns village, mistaken for *P. fragrans* by Keys (*Fl.* iii. 58) ; the sub-female plant.

- d. IV. Foot of Plympton Castle, and near the west entrance into Plympton St. Mary Churchyard ; *Banks, Fl.* part 1 ; may be extinct at the first spot, but seen recently at the latter. Orchard close to Efford Manor House, Egg Buckland.
- V. By the Yealm, a little below Puslinch Bridge. In an orchard and elsewhere on the left bank of Kitley Brook, between Efford and Gorlofen.
- VI. Orcherton. Modbury.
- First record : *Banks*, 1830.

P. fragrans, Presl. *Sweet-scented Coltsfoot.*

Alien, now quite established in many spots ; mostly near gardens.
Rather rare. December to February.

- c. I. Hedge-bank by one of the plantations near Antony House, close to the Torpoint and Liskeard turnpike road. Hedge-bank behind the Rectory House at St. Mellion, at about 370 feet.
- II. Merrifield, on a bank close to houses and gardens. Bank near the inlet at Kingsmill.
- d. III. Slope near the Granby Barracks, Devonport. King's Tamerton, behind Mount Tamar House. On both sides of the old road to Saltash, at Boldventure. Between Knackersknowle and Tamerton Foliot, near Looseleigh.
- IV. Abundant on the limestone rubble heaps, West Hoe, and on the walls of the Greenbank estate ! ; Linketty Lane, Widey ! ; *Keys, Fl.* iii. 58. Laira. By the grounds of The Priory, Compton Gifford. Roadside between Hooe and Plymstock. Hedge-bank near the Vicarage House at Bickleigh.
- V. Near the old barn at Langdon. Hedge-bank near Wembury-House. By a small orchard close to Yealmpton village.
- VI. In several places about Ermington village.

As this is one of the "Excluded species" of the *London Catalogue*, I have not attached a number to it here, though now it is so well established that it has really more claim to be reckoned as a Plymouth species than have such decided Casuals as *Camelina sativa*, *Carum Carui*, and *Crepis setosa*.

EUPATORIUM, Tournef.

421. E. cannabinum, L. *Common Hemp-Agrimony.*

Native ; among bushes and rank herbaceous plants by rivers, streams, and ditches ; also in waste spots and on banks. Very common. Part of July to September. Area general.

Grows close to the town at Pennycomequick, &c. Frequent over the enclosed country ; and although delighting to grow in damp spots by water, yet sometimes occurring on dry and rocky banks, and even on

walls : on the warm limestone and in the semi-moorland parishes. With whitish flowers near Morwellham (District III.); with white at Crabtree (iv.). The flowers attract *Goniapteryx rhamni*, *Venessa urticæ*, and many other butterflies.

CICHORIUM, L.

422. C. Intybus, L. Wild Succory.

Native ; in clayey waste spots by roadsides, on the borders of fields, and in pastures. Rather common. July to October.

- c. I. Near Crafthole. Between Sheviock and Trerule. Field between Latchbrook and Trematon village, St. Stephens.
- II. Ditch opposite Merrifield Cottages ; abundant in the woods (*so stated*) about Millbrook and St. Johns ; *Banks, Fl.* part 6. Near Calstock !; *Keys, Fl.* iii. 76. Torpoint. Between Kingsand and Millbrook. Halton.
- d. III. Government ground by Stonehouse Hill, 1873. Near Whitleigh. Near Tamerton Foliot, and between that and Roborough. Beer Ferrers.
- IV. Railway (tramway) at Crabtree !; *Banks, ib.* Plymstock. Near Stoneybridge and Common Wood, Egg Buckland.
- V. Near Noss Mayo ; *Keys, Fl.* iii. 76. Near Knighton. Elburton. Between Newton Ferrers and Puslinch. Between Yealm Bridge and Ermington.
- VI. Ringmore. Kingston. Mothecombe. Holbeton. Field below Hanger Down, 1879.

First record : *Banks*, 1830.

LAPSANA, L.

423. L. communis, L. Common Nipplewort.

Native ; on earthy hedge-banks, by roadsides, and as a weed in cultivated ground. Very common. June to October. Area general.

Over the enclosed and cultivated portions of the area ; sometimes as a garden weed quite in Plymouth.

HYPOTHÆRIS, L.

424. H. radicata, L. Long-rooted Cat's-eat.

Native ; on banks, in meadows, pastures, on open downs and moors. Very common. May to November. Area general.

One of the commonest of the *Compositæ*, to be seen in the turf of gardens in Plymouth and on the Hoe, as well as on Dartmoor. It appears to be perennial. A plant showing fasciation of flower-stem between Penters Cross and St. Mellion, May, 1875. I have once or twice seen a peculiar malformation in this species through an excessive

development of the chaffy bracts and concurrent aborted condition of the florets.

LEONTODON, L.

425. L. hirtus, L. Hairy Hawk-bit.

Native ; on stony or dry banks, on walls, and in dry waste spots.
Common. May to October.

- c. I. Port Wrinkle. Downderry. Between Seaton and Hessenford.
St. Stephens. Between Antony and Wacker. Tideford.
Landrake.
- II. Between Cawsand and Rame ; near Calstock ; *Keys, Fl.* iii. 77.
Between Torpoint and St. Johns. St. Dominick.
- d. III. Wall, Phoenix Street, Stonehouse ; several plants, 1878. Rubble
heaps by Richmond Walk, Devonport. Stonehouse Hill. St.
Budeaux. Plymouth and Saltash Road.
- IV. Townsend Hill, and under the Citadel, Plymouth. Bickleigh ;
Keys, Fl. iii. 77. Edge of field opposite Woodland Terrace,
Plymouth. Between Plymstock and Plympton. Egg Buckland.
- V. Bridgend. Brixton. Blackpool.
- VI. Mothecombe, on an old sand-bank by Meadowfoot Cove.

426. L. hispidus, L. Rough Hawk-bit.

Native ; in pastures, turf-y waste spots, and on grassy banks.
Rather rare, and remarkably local. June to September.

- c. II. By the Tamar below Harewood. Calstock Churchyard.
- d. III. Lophill, near Maristow ; *Keys, Fl.* iii. 77. Between Knackersknowle and Roborough. In profusion in Maristow lawn.
Near Buckland Abbey. Between Beer Alston and Gawton.
Between Horrabridge and Tavistock. Near Newbridge.
- IV. Between Knackersknowle and Stoneybridge, Egg Buckland.
Derriford. A small patch on the embankment at Saltram.
Between Elburton and Plympton. By the tramway, &c., at Common Wood.
- V. Near Lynham Lodge, 1867 ; still there, but only for about a yard
on a bank between the lodge and Ford, 1877. One plant in a
field near Staddiscombe, perhaps introduced, 1873.

Unrecorded for Districts i. and vi. The cause of the very local and peculiar range of this plant is not in any way apparent.

427. L. autumnalis, L. Autumnal Hawk-bit.

Native ; in pastures, on commons, and in waste sandy or dry
places. Very common. July to November. Area general.

One of the most conspicuous plants in poor turf-y pastures late in the
autumn. Sometimes with cream-coloured flowers.

PICRIS, L.

- 428. P. hieracioides, L.** *Hawk-weed Ox-tongue.*

Native ; on banks, by roadsides, and in bushy places. Rare, and extremely local. July to September.

- d. IV. Cattedown Quarries ; *Keys, Fl.* iii. 79. Plentiful on the limestone between Plymouth and Elburton ; growing in waste bushy and stony spots, and by the roadsides. Between Plymstock and Elburton. Rather sparingly about Crabtree, where trappean rocks appear amongst the slates and shales ; also by the Dartmoor tramway at Shalaford. One plant near Thornbury Corner, Egg Buckland, August, 1871.

Never met with in the other five Districts.

HELMINTHIA, Juss.

- 429. H. echiooides, Gaertn.** *Bristly Ox-tongue.*

Native ; in damp clayey places by roadsides, on the borders of fields, and on cliffs. Rather common. Part of June to August, or later.

- c. I. Port Wrinkle, &c., Sheviock. Downderry.
 II. Between Whitsand Bay and Rame. Millbrook. Between Antony and Tregantle Fort.
 d. III. Plymouth and Saltash Road.
 IV. Cattedown Quarries, Crabtree ! and elsewhere about Plymouth ; between Hoe and Wembury ; *Keys, Fl.* iii. 80. Radford. Turnchapel. Between Tothill and Laira, 1871.
 V. Wembury, by a low cliff, &c. By the coast near Revelstoke Church.
 VI. Kingston, above the Yealm estuary. Ermington.
 Unrecorded for the colder and semi-moorland tracts.

TRAGOPOGON, L.

- 430. T. pratensis, L.** *Yellow Goat's Beard.*

Native ; on grassy banks, in open places by roadsides, and in pastures. Rather common. May to August.

- c. II. About Maker, *Mr. Sconce* ; *Banks, Fl.* part 3 ; may belong to *b. minor*. Calstock Churchyard. One plant near Weir Head, September, 1877.
 d. III. Glacis of Devonport fortifications ; *Banks, ib.* ; a few specimens by the Raglan Barracks, June, 1874.
 IV. Embankment leading to Saltram Wood ! ; *Keys, S. D. Lit. Chron.* 324 ; Queen Anne's Battery, Plymouth, July, 1868 ; *Id. Fl.* iii. 78. In fair quantity in grassy spots near West Hoe

Terrace, approaching *var. grandiflorus* (florets a little exceeding the phyllaries); June, 1876. On the further from Plymouth of the Laira embankments, and near Laira Bridge. Crabtree. About the limestone quarry at Gore; possibly *b. minor*, 1876. Near Higher Leigham farm-house, Egg Buckland.

In the Plymouth examples the florets vary from a little shorter to rather longer than the phyllaries.

b. minor, Fries.

- c. I. A few plants between Hatt and Penters Cross, 1874.
- II. Near Antony; between that and Torpoint, 1871, near Borough farm-house, 1878. A plant by the quay at Calstock, 1877.
- d. III. A single plant on a rubble heap by Richmond Walk, Devonport, June, 1872. Plymouth and Tavistock Road, near the George Hotel, 1871, &c. Maristow.
- IV. Cattedown Quarries, *Rev. J. S. Tozer, Banks, Fl.* part 3; *minor* there! 1875, &c. In and about the old limestone quarry near Wixenford farm-house; elsewhere on the limestone, near Elburton, between Oreston and Plymstock, &c. On the first from Plymouth of the Laira Embankments; the type also in that neighbourhood. Marsh Mills; very characteristic *minor*. Forder, Egg Buckland; two plants by the Military road, August, 1875.
- V. By the Plymouth and Totnes Road, near Kitley. Between Lynham Lodge and Ford, by the Plymouth and Exeter Road; florets not seen expanded, so possibly the type, 1877.

Probably this species occurs in District vi., but hitherto it has not been found there. About Plymouth the anthers in both of the varieties or forms are dark brown.

First record: *Banks*, 1830.

431. *T. porrifolius*, L. *Salsify*.

Alien or Casual; banks and grassy places. Very rare. May to July, or later.

- [c. II. Edge of the Weir, Head of the Tamar; *Dr. McIlroy, Banks, Fl.* part 3; perhaps on Devon side (District III.).]
- d. III. Banks of the Tavy; abundant in Beerferris (Beer Ferrers) Church-yard; *Jacob, Fl.* part 14, with coloured plate, 1836. In plenty by the railway at Stoke Damerel, with *Eschscholtzia*, and other 'escapes' from neighbouring gardens, 1874.
- [IV. Plymstock, *Dr. Hamilton, Banks, ib.*] Perhaps not established anywhere in the area.

TARAXACUM, Juss.**432. T. officinale, Wigg. Common Dandelion.**

Native ; by roadsides, on banks, in waste spots and pastures.

Very common. March to May ; bears scattered flowers on through the summer, and flowers again more plentifully in the autumn. Area general.

One of the commonest plants in the turf of grass-plots, on walls, &c., in the town of Plymouth, occurring also about the pavements of the less frequented streets.

The var. *b. erythrospermum*, Andz., is very frequent on dry banks and rocky 'cuttings' by lanes, &c. In *English Botany* Dr. Boswell says *c. laevigatum* differs from it only in the colour of the achenes. By these the examples with the greatly divided leaves, growing about Plymouth, would be mostly *erythrospermum* ; having the 'dark red,' not 'olive,' achenes. The rather strongly-marked var. *d. palustre*, DC., is also very common and generally distributed, occurring plentifully in all the Districts. Although found mostly on damp hedge-banks, in marshes, and by roadside drains, it occurs sometimes in very dry spots. It is to be seen very near the town, as between Pennycomequick and Milehouse, in Keyham Lane, between Tothill and Little Saltram, &c., also on the limestone at Catte-down, as well as on Crownhill Down and on the swampy flat below Cholwichtown, on the southern border of Dartmoor. It begins to flower as early as the other forms, notwithstanding the contrary has been stated.

The Dandelion frequently exhibits fasciation of inflorescence. I have noticed the Greenfinch and Yellow Bunting feeding on its seeds.

LACTUCA, L.**433. L. virosa, L. Strong-scented Lettuce.**

Denizen ; on walls. Very rare. June to August, or later.

D. III. On walls above the Tavy at Beer Ferrers village ; about a dozen plants on a wall, 1864 ; eleven noticed, 1872, &c.

I used to consider this indigenous, but now think, from its restricted range, the nature of the spots where it grows, and the fact of its formerly having had a reputation as a medicinal plant, that it has been derived from ancient cultivation.

SONCHUS, L.**434. S. oleraceus, L. Smooth Sow-thistle ; 'Milky Disel.'**

Native ; on banks, in waste places, and in cultivated land. Very common. April to October, or later. Area general.

To be seen close to Plymouth. A slight variety with creamy white flowers is sometimes met with. A form having the leaves cut into narrow attenuated segments ; Maristow (District III.), 1875.

435. S. asper, Hoffm. *Rough Sow-thistle; 'Milky Disel.'*

Native ; on banks, in waste spots, and in cultivated land. Very common. April to October, or later. Area general.

As widely diffused as *S. oleraceus*. The two are not discriminated by the country folk, being together known as 'Milky Disels ;' the latter name being one for a Thistle, and probably but a corruption of the word. The form or variety, *integrifolia*, is rather common, and I have noted it for Districts II.-V. ; it probably occurs in all.

436. S. arvensis, L. *Corn Sow-thistle.*

Native ; on damp shady rocks and in muddy soil, often near salt or brackish water ; also on the borders of fields, and among corn and other crops. Common. July to September.

- c. I. Port Wrinkle, on the coast. Between Hessenford and Seaton. Polbathick. By Denabole Lake. Pillaton.
- II. Between Millbrook and St. Winnow. By St. Johns Lake. Tor-point.
- d. III. Warleigh. Beer Ferrers. Tavy Valley.
- IV. Bottom of the wall bounding Beaumont House grounds, Tothill. Saltram Embankment ; just above a line formed by masses of seaweed left by the tide. Staddon. Egg Buckland.
- V. Bridgend. Lolesbury. Between Plymouth and Yealmpton.
- VI. Kingston. Mothecombe. Holbeton.

CREPIS, L.**437. C. taraxacifolia, Thuil.** *Small Rough Hawksbeard.*

Colonist ; in waste spots, by roadsides, on banks, and among cultivated grasses. Rather rare, but fast spreading. May, June.

- c. I. Scattered by the roadside for a quarter of a mile between Burraton Lane Gate, and Carkeel, St. Stephens, 1873 ; in considerable quantity, 1874. Tideford ; a few plants on or about the quay, 1876.
- II. Cargreen, in considerable quantity about some hedge-banks, 1875. in plenty in a field of sown grasses at Tregantle, 1877. Abundant in a field of grass for hay at Pill, near Saltash, 1878.
- d. III. Several plants on turf in front of Houndscombe Place, Plymouth, 1874. Many in the Government ground by Devil's Point, Stonehouse, 1876. Road by Plymouth Cemetery, 1880, and previously. Knackersknowle, 1874, &c. Spreading over the country between Honicknowle and St. Budeaux, 1875. Grass and clover field between Weston Mills and Honicknowle, 1878.
- IV. Near a gate by a private roadway at Laira, near Crabtree, 1867 ;

in abundance in a grass-field there, 1868. Hundreds of plants on banks by the Military road ; one plant by the footway within a quarter of a mile of the second milestone from Plymouth, and three or four by the tramway near the third milestone, beyond Crabtree, 1876. In profusion in some spots near Crabtree, 1878. Cattedown, two or three dozen plants, 1873. On a wall-top and in a waste spot by a limestone quarry near Billacombe, 1874, &c.

VI. In considerable quantity in a field of grass near Ivybridge, 1878.

I believe this to be a very recent introduction, probably with the seeds of clovers and grasses ; but it is spreading with such rapidity that it may become a very troublesome weed. It had never been noticed in the neighbourhood until I found it about the year 1867.

438. *C. setosa*, Hall. fil. *Bristly Hawksbeard.*

Casual or Alien ; amongst fodder grasses and clovers. Very rare, and nowhere permanent.

d. III. Three plants among fodder grasses and clovers in a field at Penny-cross, September, 1866.

VI. Two in a field from which fodder grasses had been cut between Holbeton village and Efford, August, 1874. Several plants in a field at Orcherton, August, 1876.

439. *C. virens*, L. *Smooth Hawksbeard.*

Native ; on rocky banks, walls, and in dry or barren pastures.

Very common. June to November. Area general.

Frequent in the immediate vicinity of Plymouth ; to be seen by the warm sea coast, and in the cold semi-moorland parishes. Variable in size and appearance.

440. *C. biennis*, L. *Large Rough Hawksbeard.*

Colonist ; on grassy banks, and in fields of clover and grass.

Very rare. June.

c. I. A plant or two on a grassy bank by the Torpoint and Liskeard turnpike road, below Screasdon Fort, July, 1871 ; still very sparingly there, 1873.

d. III. In plenty in a grass-field by the Plymouth and Saltash Road, close to the road to Bull Point ; doubtless sown with the crop, June, 1879.

IV. In plenty on a bank below the Tavistock railway line near Shaugh Bridge, June, 1868 ; on the same bank a plant of *Hypericum montanum* ; still plentiful there, 1875. In plenty in a rather old pasture-field on Derriford estate, Egg Buckland, associated with *Briza media* and a few specimens of *Bromus erectus*, June, 1878.

With reference to the origin of this species at Shaugh Bridge, it is significant that on the bank where it occurs I found *Luzula albida*, DC., in May, 1874, doubtless introduced with grass seeds.

C. niceensis, Balb. Alien or Casual. Sown with seeds of grasses and clovers. Abundant in a field at Penters Cross (District I.), 1878; field at Buckland Monachorum, 1874; in one between Weston Mills and St. Budeaux (III.), 1878; in another at Leigham, Egg Buckland, 1875; two plants in a grass-field at Goosewell, Egg Buckland (IV.), 1877.

HIERACIUM, L.

441. *H. Pilosella*, L. *Mouse-ear Hawkweed*.

Native; on dry or rocky banks, in barren pastures, and on commons. Very common. May to July, or later. Area general.

Grows close to Plymouth, and at Devonport I have noticed it on the Dockyard wall near St. Mary's Church. It extends from the coast to Dartmoor. The limestone rubble heap, the poor peaty pasture, and the loamy common, all suit this widely-diffused plant. One of the most striking of the yellow-flowered *Compositae*, from the delicate lemon-yellow of the florets, with reddish-purple markings on the back of the exterior ones.

442. *H. vulgatum*, Fries. *Wood Hawkweed*.

Denizen or Native; on rocky cuttings by a line of railway. Very rare. June, July.

d. IV. On the rocky sides of two banks or 'cuttings' by the Tavistock railway line between Marsh Mills and Plymbridge; in considerable quantity, but very local.

As the line of railway by which this occurs was made at no distant period, and the banks were formed by cutting through a mass of slaty rock, it seems probable that the plant is an introduction. It is, however, said to occur on Dartmoor beyond the area, where of course it would be indigenous. I suspect the traffic on the railway has in some way or other been the means of bringing it into the Plym Valley. However, in Hooker's *British Flora*, ed. 3, 351, under *H. sylvaticum*, Sm., is the following: "Mr. Banks finds it near Plymouth with quite entire foliage." I suspect Banks's plant was a form or variety of *H. umbellatum*.

443. *H. maculatum*, Sm. *Spotted Hawkweed*.

Alien; established on shady banks in one locality. Very rare. June to August, or later.

d. III. Banks under trees at Manadon; *Phyt.* v. N.S. 370. In plenty on some shady banks very near the old garden of Manadon House, Pennycross. Quite established.

444. *H. umbellatum*, L. *Narrow-leaved Hawkweed.*

Native ; on banks in and about woods and copses, in thickets, and on dry or stony hedge-banks. Common, but showing local tendencies. Part of July to September.

- c. I. About Hessenford ; several plants with flowers of a cream-colour, among others, in the Seaton Valley, 1875. Wacker. Between Sheviock and Polbathick. Between Leigh and Moditon Mill. Between Derniford and Cadsonbury. Near Quethiock. St. Mellion. Callington.
- II. Near Millbrook. Botus Fleming. Cotehele. Harewood. Between Ashland and Harrowbarrow.
- d. III. Whitleigh. Budshead Wood. Warleigh. Between Blaxton and Roborough Down. Beer Ferrers. Buckland Monachorum. Sampford Spiney. Walkhampton.
- IV. Heybrook Brake, on the coast. Saltram Wood. Fursdon and Coleridge, Egg Buckland. Woods in the Plym Valley. Bickleigh. Meavy.
- V. Wembury ; *Keys, Fl.* iii. 82. Between Dunstone and Holbeton. Between Lolesbury and Gala Cross. Goodamoor. Cornwood.
- VI. Ivybridge ! ; *Stew. Fl. Torq.* 66. Near Oldaport, Kingston, and between the village and Bigbury Bay. Holbeton. Flete. Between Ermington and Cadleigh.

445. *H. boreale*, Fries. *Broad-leaved Hawkweed.*

Native ; amongst furze on a common. Very rare. August, September.

- c. I. Below Cadsonbury old camp, amongst furze on the southern end of the common, growing sparingly on both sides of the Callington Road, but only for a very short distance, 1874.
- d. VI. Ivybridge ; *Stew. Fl. Torq.* 66 ; perhaps an error.

It will be seen that the genus *Hieracium* is very poorly represented in the area.

Ambrosia artemisiifolia, L. Casual. Waste spot in front of some cottages on the western bank of the tidal Tamar, near Calstock (District II.). One large plant only, September, 1876. Near a quay to which small vessels bring coals, &c.

Xanthium spinosum, L. Casual. A few dozen specimens on and about a manure heap in a field near Pennycomequick, Plymouth (District III.) ; with them some plants of *Medicago denticulata* and *Erodium moschatum*, 1874 ; rather less plentifully, 1875.

CAMPANULACEÆ.

JASIONE, L.

446. J. montana, L. *Sheep's-bit.*

Native ; on dry or rocky banks, in heathy, furzy, or hilly places, and on the borders of copses and woods. Common. June to September.

- c. I. Between Tregantle and Crafthole. Between Hessenford and Seaton. About Landrake ; some plants with whitish flowers by the road to Pillaton, 1872. Between Elmgate and Tredown, St. Stephens. Pillaton.
- II. Whitsand Bay ; *Keys, Fl.* iii. 104. St. Johns. Maker. Between Trevol and Borough, Antony. Near Penters Cross. Calstock.
- d. III. Between Keyham and Saltash. Ham Lane. Near King's Tamerton, and at Saltash Passage. Near Blaxton. Beer Ferrers. Buckland Monachorum. Between Horrabridge and Sampford Spiney.
- IV. Staddon Heights ; *Keys, ib.* Leigham and Plymbridge Road, Egg Buckland ; three plants with whitish flowers at the latter place, 1875. Bickleigh. Ringmoor Down.
- V. Wembury. In a brake near Halwell. Battisborough. Revelstoke. Cornwood.
- VI. Ivybridge ; *Keys, ib.* Cliffs by Bigbury Bay. Between Sequers Bridge and Kingston. Between Harford and Cornwood.

This seems to be Biennial. It is partial to the neighbourhood of the sea and of the moorlands.

CAMPANULA, L.

447. C. rotundifolia, L. *Harebell.*

Native ; on dry banks and in old or rough pasture land. Very rare and local. July to September.

- c. II. In four or five spots about Kingsand and Cawsand ; one, at which I found it in September, 1873, is on Maker Heights.
- d. III. On the side of a hedge-bank near Beer Alston, where was apparently an open common at no very distant time ; a patch of some size in July, 1867.

C. Trachelium, L. On a bank close to a farm-yard at Combe, Saltash (District II.), evidently derived from cultivation.

SPECULARIA, Heist.

448. S. hybrida, A. DC. *Small-flowered Venus's Looking-glass.*

Colonist ; in sandy or barren fields, among corn, turnips, and other crops. Rather rare. May to October.

- c. I. Several plants in a field of oats between Port Wrinkle and St. Germans Beacon, August, 1875. One seen in a field of barley between Clapper Bridge and Blunts, Quethiock, August, 1874.
- II. Near Torpoint; *Mr. C. Johns, Jacob, Fl.* part 11; in this neighbourhood, between Torpoint and St. Johns, 1860, 1875, &c. Between Torpoint and Antony, 1872, 1879, &c.
- d. III. A single plant with *Linaria minor*, in a corn-field between Tamerton Foliot and Roborough, July, 1861.
- IV. Staddon Heights, near Plymouth; *Rev. Mr. Tozer, Fl. Dev.* 38; also *Jacob, ib.*; 1866. Saltram; *Keys, Fl.* iii. 104. Single plant, Cattedown, July, 1864. One at Common Wood, 1861. In a field of wheat between Stoneybridge and Thornbury, Egg Buckland, 1867.
- V. In a field at Wembury, with swedes, 1873; also in that neighbourhood in 1875. Between Wembury and Brixton, 1870. One plant at Chittleburn, Brixton, 1875. Lambside and near Calstone, 1875. Near Westcombe and elsewhere, Newton Ferrers, 1873, 1875, &c.
- VI. Scotscombe, and elsewhere about Kingston, 1875, &c. One plant near the Anchorist Rock, July, 1873.

At most of the stations named seen only sparingly or singly. It is partial to the neighbourhood of the sea or tidal waters.

First record: *Jones and Kingston*, 1829.

WAHLENBERGIA, Schrad.

449. W. hederacea, Reich. Ivy-leaved Bell-flower.

Native; by springs and rills, in rushy, boggy, and damp turf meadows, and in moist spots on commons. Locally common. July to September.

- c. I. St. Mellion; in a lane near the church. Viverdon Down. Notter Valley, near Clapper Bridge, and between that and Newbridge. Vale between St. Mellion and Pillaton.
- II. In great abundance in the road leading to Newbridge (on the Tamar) from Callington, *Jones, Tour*, 39; very probably now destroyed at the spot where Jones saw it, but in boggy ground nearer Callington, below Harrowbarrow, August, 1879. Near Weir Head; *Gould. and Harper, S. D. Lit. Chron.* 143.
- d. III. Roxborough (Roborough) Common, near Plymouth, ! plentiful; *Mr. Knappe, With. Brit. Plants*, ed. 7. ii. 305, 1830. By the Devonport leat at Pennycross, 1877. By the Plymouth leat at Knackersknowle, 1866. Tavy Valley, near Hatch Mill, &c. Plaster Down. Sampford Spiney.
- IV. Abundant in various parts of Bickleigh Vale; Fancy Wood; *Jacob, Fl.* part 11. Shaugh; Meavy; *Keys, Fl.* iii. 105.

Fursdon and Common Wood, Egg Buckland. Damp ground on Dartmoor, near the head of Tory Brook. Near Lovaton.

V. Near Cholwichtown. In an enclosure below Hanger Down. By a tributary of the Yealm near Dalamore.

VI. Ivybridge; *Stew. Fl. Torq.* 78.

Ascends to nearly 900 feet on Dartmoor.

First record: *Jones*, 1820.

ERICACEÆ.

VACCINIUM, L.

450. V. Myrtillus, L. *Common Bilberry.*

Native; on moors and bushy heaths, in copses and woods. Common. April, May.

c. I. Between Polbathick and Hessenford; *Keys, Fl.* iii. 108. Between Wacker and Denabole. Shevock Wood. Wood between Treloy and Seaton. Near Clapper Bridge. Cadsonbury. Hedge at Penters Cross.

II. St. Dominick. Cotehele Wood. Between Callington and Tavistock. Dupath.

d. III. Budshead Wood. Warleigh Wood, &c., Tamerton Foliot. Between Lophill and Milton. About the Tavy Valley. Wood opposite Calstock.

IV. Bickleigh Vale; *Keys, S. D. Lit. Chron.* 192, and *Fl. ib.* Saltram Wood. Bircham, &c., Egg Buckland. Abundant in woods about Plymbridge. Ringmore Down.

V. In great abundance on Dartmoor; *Polwh. Hist. Devonsh.* i. 89, 1797. Near Venton. Cornwood.

VI. Ivybridge; *Stew. Fl. Torq.* 79. Wood by the Erme, a little below Efford. Between Ivybridge and Worthill.

Through the uprooting of much of the aboriginal wood and progress of cultivation this is now a scarce plant in some tracts. The berries are called 'Herts' and 'Hertleberries' here, and considerable quantities are gathered by the country folk, and brought to Plymouth market for sale. I have found some ripe by the middle of June. Both raw and when cooked their taste is insipid; but they and black currants mixed make an excellent tart.

ERICA, L.

451. E. Tetralix, L. *Cross-leaved Heath.*

Native; in damp or boggy places on moors and commons. Locally common. July to September.

c. I. Viverdon Down. Pillaton Down. Near Clapper Bridge.

- II. By the road to St. Dominick above Vernico Down. Hingston Down.
- d. III. Roborough Down ! *Keys, Fl.* iii. 106.
- IV. Derriford, Egg Buckland. Shaugh. Ringmoor Down. Sheepstor. Near the head of Tory Brook on Dartmoor.
- V. Dartmoor !; *Keys, ib.* Crownhill Down. Below Hanger Down.
- VI. Near Ivybridge. About the Erme Valley on Dartmoor.
- A variety with white flowers is rather frequent. I have seen it in Districts I., II., IV., and V.

452. E. cinerea, L. Fine-leaved Heath.

Native ; on commons, on banks in their neighbourhood, and in rocky or open spots in and about copses. Common, though from extended cultivation now somewhat locally so. Part of June to September.

- c. I. Between Hessenford and Seaton. Near Wacker Mill. Between Polscove and Polbathick. Viverdon Down. About Clapper Bridge.
- II. Mount Edgcumbe ; near Calstock ; Penlee Point ; *Keys Fl.* iii. 106, 7. Above Whitsand cliffs between Rame and Lugger's Cave. Hingston Down.
- d. III. Roborough Down !; *Keys, ib.* Beer Ferrers. Sampford Spiney.
- IV. Among furze on the Bovisand side of Hey Brook Vale. Derriford and Common Wood, Egg Buckland. Bickleigh Down. Ringmoor Down.
- V. Waste ground above the Yealm estuary. Sparingly on the sea-bank at Revelstoke.
- VI. Waste spot between Kingston village and Bigbury Bay. Ivybridge.

Noted with white flowers for Districts I., III., and IV., and with purplish-white by Plymbridge Road. (IV.)

CALLUNA, Salisb.

453. C. vulgaris, Salisb. Common Ling.

Native ; on moors, heaths, among low copse wood, and on banks about woods. Very common. July to September.

- c. I. Between Antony and Sheviock. One of the most frequent species on the open downs and wilder parts of this and the other Districts ; the var. *incana* on Viverdon Down.
- II. On a cliff and in a plantation on the eastern side of Millbrook Lake. Calstock.
- d. III. On a rocky cutting by the Keyham and Saltash Road, close to Weston Mills Creek. Noticed with white flowers near Blaxton, and on Roborough Down.

IV. In the rough furzy ground on the limestone on the northern side of Billacombe Brook, 1872. Noticed with white flowers at Common Wood, Sheepstor, and on Dartmoor near Trowlesworthy; also with claret coloured ones at Common Wood.

V. Crownhill Down. Hanger Down.

VI. Among copse wood near Mothecombe. Near Efford, Holbeton.

Pyrola minor, L. Ivybridge, *Rev. H. A. Box*, 1858; *Ravensh. Fl.* 42; needs verification; *idem* in *Supp.* 102.

JASMINACEÆ.

FRAXINUS, *Tournef.*

454. **F. excelsior**, L. *Common Ash.*

Native; in woods, copses, and hedges. Very common. April. Area general.

Over all the wooded and enclosed tracts. There is a fine example of this elegant tree in front of the Vicarage House at Cornwood. A rather large one of the curious variety *b. heterophylla* may be seen on the lawn of Tothill House, Plymouth, where no doubt it was planted.

LIGUSTRUM, *Tournef.*

455. **L. vulgare**, L. *Common Privet.*

Native; on cliffs and in bushy places on the coast, and by tidal inlets; also in thickets and hedges. Common, though somewhat locally so. Part of June, July.

c. I. Between St. Germans and the coast, and about Hessenford. Hedges by the Mount Edgcumbe and Crafthole Road. Near Shillingham, above an inlet from the Notter; and above the river near Wacker Mill. Between Polscove and Polbathick. Near Clapper Bridge. Between Landrake and Tideford.

II. Between Cremyll and Maker Church; near Cawsand; *Keys, Fl.* iii. 109. Between Trevol and Antony. Cliffs about Hen Point, Saltash. Near Kingsmill. Near St. Mellion. Between Harrowbarrow and Callington.

d. III. Devil's Point, Stonehouse, on the limestone cliffs. Sparingly in a hedge between Mutley and Burleigh. Hedges between Ham and Weston Mills, and on cliffs by Weston Mills Lake. Cliff, Saltash Passage. Warleigh Wood, in plenty.

IV. Staddon Heights; *Keys, Fl. ib.* Cliff under the Hoe, and also at Tin Side, 1880. On limestone rubble at Cattedown, and elsewhere on this rock about Plymstock, Pomphlet, &c. A bush or two in a hedge by Thornbury Lane, Egg Buckland. Very sparingly in a bushy spot between Elfordleigh and Portivor.

- V. Newton Ferrers ! ; *Keys, ib.* Between Creacombe and Holbeton. Wembury. By the inlet below Kitley Pond. About Yealmpton and Torr.
- VI. By Bigbury Bay. Saltercress. Battisborough. Holbeton. Near Modbury.

Clearly indigenous in all the Districts, and probably so at most of the stations given. Nearly all of them are in the warmer portions of the country, this shrub appearing most plentifully on the limestone rock, coast cliffs, and in the hedges not far from salt-water. It ascends to 450 feet in District I. The flowers, which are attractive to flies, exhale a very strong and somewhat nauseous odour.

APOCYNACEÆ.

VINCA, L.

- 456. Vinca major, L.** *Greater Periwinkle.*

Alien ; only where it has escaped from cultivation, or been planted.

Rare. Part of March to June, or later.

- c. I. Near a cottage between Latchbrook and Lower Burraton, St. Stephens. By a road to a limekiln at Polbathick. A large patch in a thicket above a marsh at Tideford, near old cottages, 1875.
- II. Between Millbrook and Cremyll ; *Keys, Fl. iii.* 111. Spread from cultivation to a bank above Millbrook Lake, near Southdown ; in plenty. Hedge-bank close to Hay farm-house, near Antony. Hedge-bank by a farm-yard at Carbeal, near Torpoint. A large patch on a cliff by the Tamar between Saltash and Weard ; also on a hedge-bank near an old house at Saltash. Hedge-bank near Cargreen. Calstock, very near houses.
- d. III. [Near the first milestone on the turnpike road between Plymouth and Tavistock, *Rev. J. S. Tozer*] ; by the rivulet in Manadon Wood ; *Dr. Moore, Fl. Dev. 44.* Hedge at Outland ; *Banks, Fl. part 2.* Blaxton, on a bank and in a hedge, near a spot where there would seem to have been a house at no distant date. Between Maristow and Milton, near introduced shrubs. Hedge by a cabbage garden near Beer Ferrers village. Hedge near the mill at Tamerton Foliot.
- IV. Compton ; *Mr. C. Johns* ; *Banks, ib.* Hedge-bank, Laira ! ; *Holmes, Keys, Fl. iii.* 111. Bank between the Vicarage House and schools, Egg Buckland.
- V. Near Yealm Bridge.
- VI. About Ivybridge ; *Keys, ib.* For a yard or two in a hedge between Ivybridge and Ermington, where a bush of *Viburnum Tinus* also occurs.

457. V. minor, L. Lesser Periwinkle.

Denizen ; possibly Native in a few places. On damp or shady banks near houses, rarely in woods. Rather common. March, April ; and scattered flowers through considerable part of the year.

- c. I. St. Stephens, on a hedge-bank by a small orchard or garden. On one close to the bridge over the Notter tributary between St. Mellion and Pillaton, with white flowers. With variegated leaves on a hedge-bank by an orchard at Landrake.
- II. In plenty near Kingsmill, on the hedge-bank of an orchard, by the road to Landrake.
- d. III. North Prospect ; Ham ; *Banks, Fl.* part 2. Near Weston Mills ; *Jacob, Fl.* part 11. Whitleigh. In two or three spots in the valley between Tamerton Foliot and Axter Gate ; in one place on a hedge-bank, away from houses but near an orchard.
- IV. Compton, near Plymouth ; white variety ; *Rev. J. S. Tozer, Fl. Dev.* 43. Plymbridge ; *Banks, Fl.* part 2. Saltram ! ; *Jacob, Fl.* part 11. Near Colebrook ! ; between Bickleigh Railway Station and Shaugh Bridge ; *Keys, Fl.* iii. 110. Hedge-bank by an orchard, Poole Hill ; and on one in the valley below Bircham Cottage, Egg Buckland. Hedge-bank by the lane behind Hemerdon House. Near Plympton Maurice. Hedge-bank near Butlass farm-house.
- V. Between Yealmpton and Ivybridge, near the Plymouth Road ; *Keys, ib.* Langdon, associated with *Galanthus nivalis*. Horncombe and Fordbrook, Brixton. Between Efford and Gorlofen. Near Ford farm-house, by the Ridgway and Ivybridge Road. In a copse and on an adjoining hedge-bank near Dunstone, by the road to Newton Ferrers. About Yealmpton. Wilberton. At Lutton, and elsewhere in orchards or near houses in the neighbourhood of Cornwood.
- VI. Ivybridge ; *Keys, ib.*; in a wood near a farm-house called Pithill, with *Narcissus biflorus* in an adjoining field. Orcherton. Kingston. By an old garden, Pamflete. Holbeton, close to the village. Between Ivybridge and Ugborough, with *Anchusa sempervirens*.

Fruit is but rarely seen on this plant, and the seeds are perhaps never perfected. A few flowers may often be found open so early as February. At many of its stations it occurs with other Denizen and sometimes with Alien species.

First record : *Jones and Kingston, 1829.*

GENTIANACEÆ.

ERYTHRÆA, *Renealm.*

458. E. Centaurium, Pers. *Common Centuary.*

Native ; on banks and in barren or dry pastures. Common. Part of June to September.

- c. I. Port Wrinkle. Between Polbathick and Caracawn. Near Tregantle, by the road to Antony ; a very dwarf form ; on a bank at Tregantle, in 1878, between one hundred and two hundred plants, all with flowers of a remarkably light pink. Near Wacker Mill. Landrake.
- II. Near Millbrook ; between Calstock and Gunnislake ; *Keys, Fl. iii.* 112. Antony. Saltash and Callington Road. A plant with white flowers, close to others, between Rame Head and Penlee Point, August, 1875 ; four near St. Mellion, again with others, 1876. Peaty enclosure from Hingston Down ; a very dwarf form, 1879.
- d. III. Plymouth and Saltash Road. Tamerton Foliot. Beer Ferrers.
- IV. Under the Hoe and Citadel, Plymouth ; *Keys, ib.* ; a plant under the Hoe, 1879. Saltram ; between Colebrook and Shaugh ; *Id. et. ib.* Cattedown. Between Lipson and Compton. Egg Buckland. Two plants with white flowers at Hemerdon, 1876.
- V. Wembury ; seen here with white flowers. Revelstoke. Between Brixton and Yealmpton. Newton Ferrers. Cornwood. Plants with flowers of a light purplish-rose, intermixed with others, in plenty in a field by Crownhill Down, July, 1878.
- VI. Mothecombe. Kingston. Holbeton. Modbury.

Very variable ; sometimes with a stem more than a foot high, at others with all the flowers aggregated into a dense mass rising only an inch or two from the ground.

459. E. pulchella, Fries. *Slender Centuary.*

Native ; in damp or clayey pastures and corn-fields, and in moist spots by roadsides. Rather common. July to October.

- c. I. On the cliffs near Crafthole ; *Jones, Tour*, 16. Roadside between Latchbrook and Stoketon, 1871 ; close to Notter farm-house, 1875. By the road between Moditon Mill and Pillaton, 1875. Near St. Mellion and Clapper Bridge.
- II. Fields between Torpoint and St. Johns ; *Phyt. v. N.S.* 370 ; 1861, 1875, &c. Between Penlee Point and Rame Head. Above the coast at Tregantle. Near Millbrook, 1877. By the old road from Trevol to Antony village, 1875 ; by the turnpike road near this village, 1879.

- d. III. Pasture land below Woodland Fort. In a field near Tamerton Foliot village, above Drunkards' Lane.
- IV. Bovisand ; *Phyt. ib.* On limestone near Hay farm-house, 1877. By the Military road near Efford Mill and Derriford, Egg Buckland. Between Elburton and Plympton.
- V. In a pasture field near Knighton, Wembury, 1878. One plant in a field between Yealm Ferry and Newton Ferrers village, 1875; in plenty among oats there, and two plants in a clover-field ; 1878. In a clayey spot about an old cart-track near Chittleburn, Brixton, 1878.

No record of this for District vi., but it probably occurs in the coast tract above Bigbury Bay.

First record : *Jones*, 1820.

GENTIANA, L.

460. G. campestris, L. Field Gentian.

Native ; on dry downs, and in barren turf pastures. Rare. July to October ; very sparingly in the spring.

- c. II. Heathy ground, Vernico ; *Jour. R. Inst. Corn.* iii. 50. Hingston Down ; one plant on the open common ; more in a peaty enclosure, 1879.
- d. III. Roborough Down ; *Dr. Moore, Fl. Dev.* 47. Often seen on the southern part ; it extends into District iv. near the Meavy Road. Plaster Down, very sparingly, 1877.
- IV. Side of the road leading by Bickleigh Down towards Bickleigh village, 1860, 1868. In an enclosed peaty pasture, Hemerdon Ball ; about half-a-dozen plants in flower ; one with white blossoms, May 17th, 1870 ; also four specimens in flower in another rough pasture : one recently passed out of flower, another in flower in this locality, May 27th, 1878. (See notice respecting the spring-flowering of this plant in *Jour. Bot.* viii. 223, 356.) In profusion in the two pastures, and also in other pastures at Hemerdon ; several plants with white flowers, October, 1870. In fair quantity in a small piece of waste heathy ground near the old workings of Wheal Sidney Mine, between Plympton and Shaugh, 1877.
- VI. In considerable quantity and in several spots in a rough turf pasture below Hanger Down ; two plants with pure white flowers, 1879.

First record : *Jones and Kingston*, 1829.

MENYANTHES, L.

461. M. trifoliata, L. Buckbean.

Native ; in bogs on moors, and in other swampy places. Rather rare. May.

- c. I. In plenty in swamps in the Seaton Valley, between the coast and Hessenford. Marshy spot in the vale between St. Mellion and Pillaton villages, 1869. Viverdon Down.
- d. III. Not seen within the boundary line, though occurring only just beyond it in bogs below Whitchurch Down.
- IV. Chelson Meadow, near Plymouth ; *Captain M'Adam, Keys, Fl.* iii. 114 : extinct ? Bog below Trowlsworthy, Dartmoor.
- V. In plenty in the swamp on the green at Westlake, Ermington, 1879. Bog near the source of Broadall Brook, Dartmoor.
- VI. Near Ivybridge ! ; *Keys, ib.* Hanger Down ; in plenty in a large swampy hollow.

Polemonium cæruleum, L. Laira, near Plymouth, but questionably wild ; between Knackersknowle and Tamerton, casual, but apparently wild, 1869 ; *Keys, Fl.* iii. 114. A garden outcast or 'stray,' but very rarely seen.

CONVOLVULACEÆ.

CONVOLVULUS, L.

462. C. arvensis, L. Small Bindweed.

Native ; on dry or rocky banks, by roadsides and footpaths in warm open situations ; also in fields. Very common. June to September. Area general.

Occurs close to the town of Plymouth. Noticed with white flowers between Antony and Tregantle (District II.) ; between Ford Park and the Cemetery Road, Plymouth ; by the Plymouth and Saltash Road (III.), and by the tramway near Crabtree (iv.) ; with flowers having a purplish ring within the corolla, in abundance in the field behind the houses of the Preventive Station at Motecombe, growing with the other (vi.). A curious form, with the corolla more or less divided into segments, for a yard or two by Westlake Road, between Down Thomas and the coast (iv.), 1875.

463. C. sepium, L. Large Bindweed ; 'White Smock.'

Native ; among bushes in hedges, in thickets in damp situations, and sometimes as a troublesome weed in garden ground. Very common. July to October. Area general.

May be seen climbing over shrubs in gardens in Plymouth ; in the hedge in Pennycomequick Vale, also in others close to the town, and in the churchyard of Charles.

464. C. Soldanella, L. Sea Bindweed.

Native ; on sand-banks by the coast and by estuaries. Rare. Part of June, July, or later.

- c. I. On the shore near Crafthole ; *Jones, Tour*, 16. Seaton ; Jones's record has doubtless reference either to this station or to the following one.
- II. Between Lugger's Cave and Wrinkle ; *Mr. C. Johns, Fl.* part 5 ; still in a sandy spot below Tregantle Fort.
- d. VI. By Bigbury Bay, at the cove below Kingston village. On a sandbank by the Erme, near Pamflete.

The rocky, not sandy, character of most of our shores may be the reason of the rarity of this species in the area.

CUSCUTA, *Tournef.*

465. C. Epithymum, L. Lesser Dodder.

Native ; on commons, banks, and in open pastures ; parasitical on *U. europæus*, *U. Gallii*, *Calluna vulgaris*, and other shrubby plants. Rather common. July, August.

- c. I. Pillaton Down, Cadsonbury.
- II. Rame Head ! ; between Tregantle and Sharow Grot, Whitsand Bay ! ; *Keys, Fl.* iii. 116. Vernico ; *Jour. R. Inst. Corn.* iii. 50. Between Rame Head and Penlee Point.
- d. III. Buckland Monachorum Down, near the Virtuous Lady Mine.
- IV. Heybrook Brake, just above the coast. Shaugh Hill. Bickleigh Down. By Plymbridge Road, &c., where was formerly Egg Buckland Down ; a patch, mostly on *Teucrium Scorodonia*, 1872 ; in another spot on this, 1874 ; generally on *Ulex*.
- V. Revelstoke, above the coast. Crownhill Down.
- VI. Ivybridge ; *Keys, ib.* ; seen in that neighbourhood.

466. C. Trifolii, Bab. Clover Dodder.

Alien ; but perhaps now established in some places. In fodder or grass-fields, on *Trifolium pratense*, and other allied plants, extending from them on to the surrounding vegetation. Rare. July to October.

- c. II. In two or three spots in a clover and grass-field, sown probably a year or two previous, near Borough farm-house, Antony, August, 1872.
- d. IV. Several patches in a clover-field at Fursdon, Egg Buckland, with *Orobanche minor* ; also in two other fields in the same neighbourhood ; noticed on *T. hybridum*, as well as on *T. pratense*, July, 1866 ; also seen by my brother in one of the fields in 1871. In a clover-field at Fursdon, September, 1875 ; again with *Orobanche*. Field at Compton Gifford, August, 1866. A few young plants in a fodder-field at Colwell, Egg Buckland, May, 1870. In plenty in a field at Leigham, Egg Buckland, 1876.

V. In plenty in a field near Revelstoke Church, with *Trifolium hybridum*, &c.; also sparingly in one near Newton Downs farm-house, 1874. Sparingly in a field at Westcombe, Newton Ferrers, 1875. A patch in a clover-field between Staddiscombe and Knighton, 1875.

First record: *Briggs*, in *Jour. Bot.*, 1866.

SOLANACEÆ.

SOLANUM, L.

467. S. Dulcamara, L. *Woody Nightshade.*

Native; in thickets, waste bushy spots, on stony and rocky shores, and sometimes on walls. Common. Part of May to September, or later.

- c. I. Between Hessenford and Seaton. Tideford. Sheviock. Pillaton.
- II. Between Torpoint and St. Johns; *Keys, Fl.* iii. 125. By Whit-sand Bay. Mount Edgcumbe. Saltash.
- d. III. Wall by Stoke Damerel Churchyard, 1879. Bushy bank near the Longroom, Stonehouse. Cemetery Road. Plymouth and Saltash Road. Tamerton Foliot. Beer Ferrers; a plant or two with white flowers on refuse at Wear Quay, by the Tamar, 1871.
- IV. Crabtree; Bickleigh; *Keys, ib.* On limestone below the Hoe, 1880; at Cattedown, Pomphlet, &c. On the coast between Bovisand and Wembury. Egg Buckland; a plant with light flowers in a sandy spot near Plymbridge, 1867. Plympton St. Mary.
- V. Revelstoke. Newton Ferrers. Elburton. Kitley.
- VI. Mothecombe. Kingston; a form with softly downy cordate-ovate leaves, between the village and Bigbury Bay.

Sometimes erroneously called Deadly Nightshade.

468. S. nigrum, L. *Black Nightshade.*

Casual or Colonist; in waste places near salt water, &c. Very rare. July to September.

- c. II. [Foot of a wall at the top of the principal street in Millbrook; *Banks, Fl. part 4.*] Single plant at Anderton, near Millbrook, 1859; one with turnips in a field between Trevol and Antony, September, 1876; one by the roadside between St. Johns village and the field-path to Trevol, August, 1877.
- d. [III. At the back of Mount Tamar House; *Banks, ib.*]
- IV. Bovisand Bay; *Fl. Dev.* 41, also *Banks, ib.* A single plant at Cattedown; probably introduced with ballast, July, 1864.

The great rarity of this is remarkable, especially as there are so many places about the salt water inlets and shores that appear well suited for it. It would seem to have been commoner fifty years ago.

First record : *Jones and Kingston*, 1829.

Lycium barbarum, L. Alien. By a wall close to an old house between Tothill and Laira, called Lower Mount Gould (District iv.); established on a low slaty cliff, very near an old cottage above the tidal inlet between Bridgend and Newton Ferrers village (v.).

ATROPA, L.

469. A. *Belladonna*, L. *Deadly Nightshade*.

Denizen ; on a low cliff and in waste spots close to salt water.

Very rare. June to September.

- c. II. In a shady nook, on a low cliff, below Mount Edgcumbe Park, one large plant, June, 1865 ; also noticed in the succeeding year.
- d. [III. Quarry at Cremil-point, *Mr. Hunt, Rev. Dr. Jacob, Rev. Mr. Bree* : very rare ; *Banks, Fl.* part 4. A plant or two on the shore below Longroom Point, Plymouth (Stonehouse), scarcely wild there ; *W. A. Bromfield, MS. N. Bot. Guide*, ii. 551, 1837.]

As 'Cremil Point' is an old name of Devil's Point, I conclude that Mr. Banks's station was on the Devon side of the water, and identical with Dr. Bromfield's in the *New Botanist's Guide*. Banks observes : "The great scarcity of the Belladonna in a wild state among us, and the destruction of it during the late excavations at Cremil-point, are circumstances of congratulation rather than of regret." I have not seen it recently at the Mount Edgcumbe station, but it may still grow there.

First record : *Banks*, 1830.

Datura Stramonium, L. Casual. Back of Mount Tamar House ; foot of garden-walls, Dockyard ; *Banks, Fl.* part 4. Keyham, a solitary specimen, 1849 ; a weed in a neglected garden at Woodside, Plymouth ; *Keys, Fl.* iii. 126. Seen as a Casual near Egg Buckland some years ago.

HYOSCYAMUS, L.

470. H. *niger*, L. *Common Henbane*.

Native ; in sandy waste ground on or near the coast. Rare. June to August.

- c. I. Near Wrinkle ; *Mr. C. Johns, Banks, Fl.* part 3 ; ! 1871. Sandbank at Seaton, 1873.
- II. Near Lugger's Cave ; between Millbrook and Whitsands ; *Banks, ib. Tregantle ! ; Jacob, Fl.* part 15. Rame ; *Keys, Fl.* iii. 126 ; a few large plants a little west of the church, 1871.

- D. [III. Millbay ; *Rev. J. S. Tozer* ; *Banks*, *ib.*] Near Maristow ; *Jacob*, *ib.*
- IV. Bovisand ; *Jacob*, *ib.*; *Major Briggs*, 1871.
- VI. By Bigbury Bay, below Ringmore.
Seems to be decreasing.
First record : *Banks*, 1830.
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SCROPHULARIACEÆ.

VERBASCUM, L.

471. V. Thapsus, L. Great Mullein.

Native ; in pastures, on banks, in waste places, and on walls.
Common. July to September.

- c. I. Seaton. Between Heskyn and Cutcrew. St. Stephens. Tideford. Sheviock.
- II. Between Millbrook and Tregantle ; *Keys*, *Fl.* iii. 131. Above Whitsand Bay. Torpoint. Landulph.
- D. III. A plant on the boundary wall of the grounds of the Military Hospital, Stoke Damerel, 1876. Pennycross. Tamerton Foliot. Buckland Monachorum. Beer Ferrers.
- IV. Plymstock ; *Keys*, *ib.* Furze Hill Lane, Plymouth, 1873. Catte-down. Compton Gifford. Egg Buckland. Plympton St. Mary. [Three or four dozen plants on the wall of the old Friary grounds, by Tothill Road, Plymouth, 1873 ; wall taken down in the autumn of that year.]
- V. Revelstoke ! ; *Keys*, *ib.* Wembury. Newton Ferrers. Brixton. Yealmpton.
- VI. Ringmore. Kingston. Holbeton.

472. V. nigrum, L. Dark Mullein.

Native ; on banks and in waste spots. Very rare, and extremely local. July to September.

- c. I. Between Crafhole and Looe ; *Jones*, *Tour*, 16 ; still in this locality, on banks and in waste spots about the estuary of the Seaton.

Restricted to a limited tract in the south-western extremity of the area.
First record : *Jones*, 1820.

Hybrid. *Thapso-nigrum*. A Hybrid between the Great Mullein and the Dark Mullein. Very rare.

- c. I. One plant at Seaton, September, 1873. Six or seven, with many of *V. nigrum* and some of *V. Thapsus* growing near, July, 1876.

It will be seen that the only locality that produces *V. nigrum* affords also the hybrid between it and *V. Thapsus*. The intermediate examples agree well with the description in *English Botany*, ed. 3 : in spikes and flowers looking much like *nigrum*, but with leaves conspicuously different in outline and general appearance, showing plainly the connection with *Thapsus*.

473. *V. virgatum*, *With.* Large-flowered Mullein.

Native or Denizen ; on dry banks, in pastures and waste spots.

Common, though to some extent local. June to September.

- c. I. Near Seaton. Trevolland, &c., St. Stephens. Tideford. Leigh. Pillaton.
- II. Torpoint ! ; *Hook. and Arm., Brit. Fl.* ed. 7. Maker ! ; Rame ! ; *Keys, Fl.* iii. 133. About Saltash. Landulph.
- d. III. Railway cutting between Plymouth and Devonport, 1866 ; *Keys, ib.* Mutley, 1867. About King's Tamerton. Between Manadon and Burrington. Tamerton Foliot. Beer Ferrers.
- IV. Near Plymouth ; *Mr. Banks, Hook. Brit. Fl.* 110, ed. 2. Laira ; *Keys, Fl.* iii. 132. Between Lipson Terrace and Mount Gould, 1873. Plymstock. Leigham, Fursdon, &c., Egg Buckland. Plympton St. Mary.
- V. Noss ; Revelstoke Churchyard, 1866 ; *Keys, ib.* Near Elburton. Wembury. Staddiscombe. Newton Ferrers. Brixton. Yealm Bridge.
- VI. Ringmore. Mothecombe.

I have never met with this bearing whitish flowers, and believe that all the white-flowered plants referred to it have really belonged to *V. Blattaria*.

First record : *Hooker*, 1831.

474. *V. Blattaria*, *L.* Moth Mullein.

Alien or Casual ; in waste spots and fields. Very rare. July, August.

- c. I. By the railway line a little below St. Germans, with light flowers, 1866.
- d. III. [Near the Camel's Head Inn, on the Saltash Road from Plymouth, with cream-coloured flowers ; *Keys, Fl.* iii. 132.] Three plants with yellow flowers, but of a less bright tint than those of *V. virgatum*, with *Trifolium hybridum*, in a field by the Knackersknowle and Tamerton Foliot Road ; August, 1867.
- IV. Circa Plymouth, frequens ; *Huds. Fl. Ang.* ed. 2, 1778. Probably the plant seen was *V. virgatum*. Near Plymouth ; *Mr. Banks, Hook. Brit. Fl.* 110 ed. 2, 1831. Two plants, with light flowers, in waste ground near Laira Bridge, July, 1864.

There is little doubt but that the Plymouth plant mentioned in the *Flora Anglica* was really *V. virgatum*. Dr. Pulteney, in his *Catalogue of the more Rare Plants of Dorsetshire*, says, under *V. Blattaria*, "Mr. Lightfoot observed it about Plymouth in situations that inclined him to believe it of natural growth." Probably it was *V. virgatum* that Lightfoot also found, and not the plant to which the name *Blattaria* is now restricted.

SCROPHULARIA, *Tournef.*

475. *S. Balbisii*, Hornem. Common Water Betony.

Native ; in damp spots by streams, ditches, and ponds, and in waste places by roadsides. Very common. June to September. Area general.

Frequent in damp spots around Plymouth, and over the enclosed country. It sometimes, however, occurs in dry places, as on the limestone at Cattedown and elsewhere. A variety with greenish-white or yellowish flowers and light foliage in a roadway behind the villas above Pounds, Pennycross (District III.) ; also between Marsh Mills and Plympton St. Mary Church, by the turnpike road.

Wasps are very fond of the nectar contained in the flowers of both this and our other species, and consequently much frequent them.

476. *S. nodosa*, L. Knotty-rooted Figwort.

Native ; in waste spots and on banks. Very common. June to September. Area general.

Grows on hedge-banks close to Plymouth ; Cemetery Road, Furze Hill, &c. ; and extends to the semi-moorland parishes ; Buckland Monachorum, &c. A variety with greenish-white or yellowish flowers, corresponding to that named under *S. Balbisii*, at Shalaford and near Plymstock (District IV.) ; and between Battisborough and Lambside (v.) ; at the last place two plants growing near an ordinary one.

S. Scorodonia, L. Specimen in *Herb. Plymouth Institution*, labelled ' *S. aquatica*, near Devonport.' It was collected by Dr. Jacob. There is no date, and probably it came from some other locality ; very likely from the neighbourhood of Kingsbridge, where *S. Scorodonia* grows in abundance.

S. vernalis, L. Casual. A stray from a garden. Ham Wood ; a few plants, May, 1861. *Phyt.* v. N.S. 256.

DIGITALIS, *Tournef.*

477. *D. purpurea*, L. Foxglove ; ' Flapdock,' or ' Flappadock.'

Native ; on banks, in the open parts of hilly woods and copses, and on stony or bushy hillsides in both the open and enclosed country. Very common. Near the end of May to July. Area general.

On the limestone beds the *Digitalis* is rare or absent, but these are of too limited an extent to prevent 'area general' from broadly expressing its distribution in the six Districts. On the granite it is very frequent indeed, often adorning hillsides on Dartmoor. The white-flowered variety is rare : I have seen it at Common Wood and Derriford (District iv.) ; a flesh-coloured or pinkish one near Clapper Bridge and on Roborough Down. I gathered at Common Wood, in 1857, a curious monstrosity, in which some of the pistils were converted into stems with numerous bracts.

The 'flapping' or 'popping' of the flowers by children has originated the common local name, 'Flapdock' or 'Flappadock.' In a vocabulary of Devonshire words in Cooke's *Devon* we find the interesting one of 'Cow-slop' (see *Prior. Pop. Names Brit. Plants*, ed. 2, 54), but this I have never heard about Plymouth. Humble Bees frequent the flowers of this species, and I know of a prosy preacher having been compared by a rustic of the neighbourhood of Plymouth to a 'Drumble Drane' (Humble Bee) on a 'Flappadock.'

ANTIRRHINUM, *Tournef.*

478. *A. majus*, L. Common Snapdragon.

Alien ; on old walls about houses, and rarely in waste spots.

Rather common. June to September, or later.

- c. I. Burraton Combe, St. Stephens.
 - II. Torpoint ; *Keys, Fl.* iii. 133. Garden-wall between Millbrook and Kingsand. Saltash.
 - d. III. Stoke Damerel.
 - IV. [Cattedown Quarries, near Plymouth ; *Jacob, Fl.* part 4. At Cattedown Quarries it has perfectly established itself on the rock, and has assumed the unostentatious tint of the primitive type, a pale red, or almost white ; *Bromfield, Fl. Vect.* 345, note. I never remember seeing it there ; *Keys, Fl.* iii. 133.] Walls at Tothill, and elsewhere about Plymouth. Laira. Plympton. Ridgway. Four plants in a waste bushy place near Hay farm-house, 1874.
 - V. Garden-wall, Bridgend. Wall in Brixton village.
 - VI. On a wall near the church at Modbury.
- Well established on walls only.

479. *A. Orontium*, L. Corn Snapdragon.

Colonist ; in dry corn-fields, and among other crops ; sometimes in waste spots about arable land. Rare. July to September.

- c. I. Many plants on the Cornwall Railway below Wivelscombe, St. Stephens, with *Linaria minor*, August, 1878. One close to Heskyn Mill, July, 1875. One in a waste spot near Notter farm-house, August, 1874 ; again one, and several in a neighbouring barley arish, September, 1875.

- II. Cawsand! ; *Keys, Fl.* St. Johns ; noticed sparingly between the village and Torpoint in 1862, 1872, &c. ; in considerable quantity in a potato-plot close to St. Winnow farm-house, St. Johns, September, 1875.
- D. III. Very sparingly in arable land near Saltash Passage, 1863. One plant near St. Budeaux, 1868. One in an oat-field at Blaxton, 1868.
- IV. A single plant by a roadside, Mannamead, Plymouth, July, 1870. Two on a bank near Stoneybridge, Egg Buckland, August, 1864.
- V. One in a corn-field near Calstone, Revelstoke, 1876. In plenty with turnips in a field near Bridgend, by the church-path to Revelstoke, August, 1874 ; in the same field, September, 1875.
- VI. Field between Kingston and Ringmore, August, 1865.
- Apparently no more than a Casual at some of the places named.

LINARIA, *Tournef.*

480. L. *Cymbalaria*, L. *Ivy-leaved Toadflax*; ‘*Mother of Millions*.’ Alien or Denizen ; on walls, stony hedge-banks, rocky ‘cuttings,’ and banks. Common. April to October.
- c. I. Near Trematon Castle ; *Keys, Fl.* ; a white-flowered variety with yellow palate by the lane below the castle, 1868. Polbathick. Killa. Cuterew. Markwell. Tideford. Leigh.
- II. Near Millbrook! ; near Cawsand! ; *Keys, ib.* Near Penlee Point. In profusion on a bank by the railway between Saltash and Combe. Between Etheric and Cotehele Quay.
- D. III. Plentifully on the stone hedges about half-a-mile from Milehouse, near Devonport, and on the walls about Montpellier House ; *Jacob, Fl.* part 5. In luxuriance at Ford, near Devonport ; *Keys, S. D. Lit. Chron.* 206. Mutley ; St. Budeaux ; on the walls of Tamerton Church ; *Keys, Fl.* iii. 134 ; at Mutley, in 1862, I found the beautiful white variety, but have not seen it recently there. King’s Tamerton and Honicknowle. Wall, Torr Grove. Beer Ferrers ; on a wall by the churchyard, at Gnatham, and near Holes Hole.
- IV. Plympton ; *Keys, ib.* ; the white variety on the old castle ; Mr. John Shepherd. Townsend Hill, and elsewhere about and in Plymouth. On limestone rubble at Cattedown. Saltram Embankment. Knackersknowle. Underwood.
- V. Newton Ferrers. Dunstone. Langdon. Spriddlestone. Fursdon and Goodamoor. Cornwood.
- VI. Ivybridge ; *Keys, ib.* Kingston. Mothecombe. Ermington. One of the most striking examples of a completely established alien perennial species.

First record : *Jacob*, 1835.

481. L. Elatine, Mill. *Sharp-leaved Fluellen.*

Native or Colonist ; in arable land, and waste spots about cultivated fields. Very common. July to October. Area general.

One of the commonest weeds in fields of corn, turnips, mangold wurzel, &c.

482. L. spuria, Mill. *Round-leaved Fluellin.*

Colonist ; in arable land with corn, turnips, and other crops, and occasionally by roadsides. Rare. July to October.

c. II. Corn-fields, Antony ; *Jacob, Fl.* part 5.

d. III. Keyham, 1852 ; *Banker, Keys, Fl.* iii. 134.

IV. Near Pomphlet Mills, Plymstock ; *Goulding, Keys, ib.*; near Plymstock, 1860. In fields near Egg Buckland village, 1858, 1879, &c. ; in the military road below Austen Fort, 1870. Field below Efford Manor House, 1860 ; a plant on a hedge-bank there, 1877. Bovisand, a single plant growing from a crevice in a wall, August, 1877.

V. A plant or two by the side of a road near Bridgend, August, 1861. In plenty in a field of oats by the path to the Yealm Ferry from Newton Ferrers, July, 1878.

First record : *Jacob*, 1835.

L. supina, Desf. *Decumbent Toadflax.*

Alien ; established in waste spots on and about some limestone rubble heaps. Very rare. Latter part of April to October.

d. IV. Cattedown Quarries, Plymouth ; *Keys, Fl.* iii. 135 ; also in *Phyt.* ii. 938–40, 1847, and iii. 1022, 1050. “Catdown Quarry, Plymouth, July, 1847. Introduced ten or twelve years before with ballast from Rouen, *Mr. Johns and Mr. Hore.*” *Herb. Borrer.* There is a specimen in *Herb. Easton*, with the note, “Naturalized at Catdown Quarries, probably introduced with ballast from the Continent, *Charles Harper, 1846.*” Still occurs in fair quantity on the limestone at Cattedown, growing on the rubble mounds and in waste spots about them. On the railway line at Crabtree, in considerable quantity, 1877 ; no doubt introduced with limestone rubble brought from Cattedown for the repair of the line ; first noticed here by Mr. W. Curnow, of Penzance, a few years ago.

As this plant has grown at Cattedown for certainly more than forty years, I have given it a place in this *Flora*, though without a number, as it is one of the ‘Excluded Species’ of the *London Catalogue*. The figure in *English Botany*, ed. 3, was drawn from a specimen that I sent to Dr. Boswell. His description also was from plants obtained here.

First record : *Keys*, in *Phyt.*, 1847.

483. *L. vulgaris*, Mill. *Yellow Toadflax*.

Native ; on hedge-banks and about the borders of fields. Very common. From the latter part of June to October. Area general.

Grows on hedge-banks close to Plymouth, as in Furze Hill Lane, &c. ; occurs on the limestone by Stonehouse Hill, between the towns of Devonport and Stonehouse, and is a frequent species over the enclosed country. A splendid spike of the curious *Peloria* variety or form, on a bank by Hay Lane, near Torpoint, with eleven expanded flowers, also four or five other spikes with unopened buds, growing near the ordinary plant ; July, 1873.

The flowers of this plant vary greatly in depth of colour ; the palate is sometimes yellow instead of bright orange.

484. *L. minor*, Desf. *Least Toadflax*.

Colonist, possibly Native in some localities ; in dépressions where water occasionally settles about limestone quarries, in cultivated fields with a light soil, and in dry spots about roads or foot-paths. Rather rare. June to September.

- c. I. Near Polbathick, 1862 ; *Keys, Fl.* iii. 135. In neglected garden ground below Screasdon Fort, 1879. In a field of barley between Blunts and Clapper Bridge, August, 1874. Two plants on the border of a field of turnips and swedes between Moditon Mill and Leigh, August, 1875. In fair quantity near an old slate quarry at Wivelscombe ; also on the railway line below Wivelscombe House, 1878.
- II. Near Torpoint ; between it and St. Johns, 1865, 1875 ; in a barley arish between it and Antony, 1870 ; five plants on an earth-capped wall, 1879, &c. One near Moditonham, August, 1873.
- d. III. Bank below the railway line at Pennycomequick, Plymouth, 1879. Cornfield between Tamerton Foliot and Roborough, 1861. Three plants among mangold wurzel in a field near Beer Alston, September, 1875.
- IV. Limestone quarry near Laira Bridge ! ; *Jacob, Fl.* part 5. Cattedown Quarries, 1863 ; *Keys, Fl.* iii. 135 ; seen very sparingly on a quay at Cattedown, July, 1875. A specimen from Cattedown, August, 1845, *C. Harper*, in *Herb. Easton*. By the limestone quarries at Billacombe, 1860, 1872, in the one near Hay farm-house, 1867. Among mangold wurzel in a field between Elburton and Plympton, August, 1866. On slaty refuse in the vale between Plymouth and Lipson, probably spread to the spot from the railway line, 1872. On the railway line at Laira, and between Colebrook and Chaddlewood, apparently

delighting to grow in the ashes and refuse fallen from the passing engines.

- V. On slaty refuse by Coffleet Lake, 1871, &c. In a potato plot at Chittleburn, Brixton, August, 1875.

First record : *Jacob*, 1835.

L. purpurea, Mill. Alien. On the walls of Trevolland, near Saltash, 1850 ; near Millbrook ; *Keys, S. D. Lit. Chron.* and *Fl.* iii. 135. Specimen from the former place in *Herb. Easton.*, with 'C. Harper,' 1846, on the sheet. I have seen it on walls at Pennycomequick, Stoke Damerel (District III.), Ridgway and Underwood (iv.). It has spread from gardens, and now seems established in a few localities.

MIMULUS, L.

485. *M. luteus*, L. *Yellow Monkey-flower.*

Alien ; on sand-banks or amongst stones in or by river beds. Very rare. June, July, or later.

- d. IV. Sparingly on a sand-bank in the bed of the Plym, a little below Plymbridge. On the right bank of this river at Leigham, near where the carriage-road enters a wood ; also one or two plants a little below, July, 1868.
- VI. In plenty on a sand-bank in the bed of the Erme, near Erme Bridge ; derived perhaps from some garden at Ivybridge, a village on this river about three miles above, where I have seen it in cultivation, 1865 ; *Jour. Bot.* iii. 351.

This is certainly an Alien species spread from gardens.

First record : *Briggs*, 1865.

SIBTHORPIA, L.

486. *S. europaea*, L. *Cornish Moneywort.*

Native ; on damp banks by rivers, streams, and rills, and about springs. Rather, though somewhat locally, common. June to September.

- c. I. Georges Lane, Sheviock. Near Cutmere Bridge. Near Killa, by the road to Filbridge. By a stream below Wayswandra. Between Landrake and Tideford Cross. Notter Valley. Vale between Viverdon Down and Pillaton. Lane between Newton and Derriford.
- II. About the stream of water coming down from the Southdown Brewery reservoir, *Mr. Hunt* ; bank of the stream at Hoe-lake, Mount Edgcumbe, *Mr. C. Johns* ; at the foot of the wall near the mill-wheel at St. Johns ; *Banks, Fl.* part 4. Rivulet east of Sharow Grot, Whitsand Bay ! ; *Keys, Fl.* iii. 140. Lower Tregantle. Between St. Johns and Millbrook. St. Dominick.

- D. III.** Damp bank, Ham. Bank of the Devonport leat at Manadon, 1879. By the Plymouth leat at Knackersknowle, 1866. Valley between Blaxton and Inchers. Near Denham Bridge, &c., Buckland Monachorum. Beer Ferrers, in the Tavy Valley, and in a marsh by the Tamar near the ferry to Calstock. Near Horrabridge Railway Station. Sampford Spiney.
- IV.** Lane leading from Goodameavy to Shaugh; *Rev. Dr. Jacob*; right-hand side of the road leading from Shaugh Bridge to the mill; *Banks, Fl.* part 4. Banks of the Plym!; *Ravensh. Fl.* 48. Near Bickleigh; *Phyt. v. N.S.* 370. Poole, Fursdon, Coleridge, Derriford, and Common Wood, Egg Buckland. In plenty by the stream above Bovisand Bay. Larkham Lane and Loughtor, Plympton St. Mary. Sheepstor. Lynch Hill.
- V.** By a rill between Wembury Church and Knighton. Yeo, near Yealmpton. By Kitley Brook, a little above Ford Cottages. Near Fardel. Wisdom, near Tor, and Blachford, Cornwood.
- VI.** About the springs in the village of Tor, near Harford; *Sir Francis Drake and Mr. Hudson, Fl. Dev.* 106. Ivybridge!; *Ravensh. Fl.* 49; also at Hall, between it and Harford. Near Pamflete. Torr, Kingston, by a roadside stream.

Ascends to nearly 300 feet. It is remarkable there should be three places named Tor or Torr, among the stations for this plant, each being in a different District. From the fact that Tor is an old word for a hill, many places have come to be so named about Plymouth. Here we find the stations themselves bearing the witness in their names that a hilly country suits the species under which they are mentioned.

First record: *Jones and Kingston*, 1829.

VERONICA, *Tournef.*

487. V. hederifolia, L. *Ivy-leaved Speedwell.*

Native or Colonist; on dry earthy banks, and as a weed in gardens and other cultivated ground. Very common. February to June. Area general.

One of the most frequent plants on the dry hedge-banks immediately around the town of Plymouth.

488. V. polita, Fries. *Grey Procumbent Speedwell.*

Native or Colonist; in waste spots, by roadsides, on dry banks, and as a field and garden weed. Very common. February to November. Area general.

This is extremely common close to Plymouth. It was for a long time confused with *V. agrestis*. The first record of it as a Plymouth species is that by the Rev. W. S. Hore, in *Phytologist* i. 161, 1841. It is more frequent than *V. agrestis*, at least within some miles of Plymouth.

489. *V. agrestis*, L. *Green Procumbent Speedwell.*

Native or Colonist ; in waste spots, on earth-capped walls, and as a field and garden weed. Very common. February to November. Area general.

A weed in Plymouth gardens, as well as in the cultivated fields of the semi-moorland tracts. The leaves are of a lighter green than those of *polita* ; the flowers are often white. It appears in greatest quantity in the autumn, then springing up in plenty on some of our earth-capped walls, about the withered stems of species that have flowered, shed their seed, and died. It and *polita* both occur close to the coast in arable land.

490. *V. Buxbaumii*, Ten. *Buxbaum's Speedwell.*

Colonist, of quite recent introduction. In cultivated land, and in waste spots and on banks about arable fields. Very common. Flowers great part of the year. Area general.

- c. I. Between Hessenford and the coast. Polbathick. Tideford. St. Stephens. Landrake.
- II. Weed in a garden at Wear, near Millbrook, 1849 ; on Ninny farm, same neighbourhood ; fields near Torpoint ! ; Saltash ! ; between Cawsand and Rame ; *Keys, Fl.* iii. 143. Wilcove. Elbridge. Hatt. St. Dominick.
- d. III. Mutley, 1845 ; fields near Stoke Churchyard ; Weston Mills ; *Keys, ib.* Pennycross. St. Budeaux. Tamerton Foliot, by the inlet, &c. Near a hedge-bank by the road below Buckland Monachorum Down, 1872. Roborough. Milton. Beer Ferrers.
- IV. In 1844 it was very rare about Plymouth, only one or two stations being then known for it ; Egg Buckland ! ; *Keys, ib.* West Hoe, 1873. Plymstock. Plympton.
- V. Wembury ; spread to the sand and shingle of the shore near the church, 1878. Creacombe. Newton Ferrers. Brixton. Near Chaddlewood.
- VI. Mothecombe, on sand by Meadowfoot Cove ; also on the Kingston side of the Erme. Holbeton. Between Ivybridge and Ermington, and at the latter place.

This seems to have increased with amazing rapidity. It now occurs in the greatest profusion in cultivated ground in numerous localities, and grows also on banks and by roadsides, often having quite as wild an appearance as *polita* or *agrestis*, yet the Rev. W. S. Hore, writing in the *Phytologist*, in 1841 (vol. i. 161), said of it, "Occurs both in Devon and Cornwall, but not abundantly : it appears limited to the fields which have been recently ploughed, and disappears in a season or two."

First record : *Hore*, 1841.

491. *V. arvensis*, L. *Wall Speedwell.*

Native ; on dry banks, wall-tops, by paths and roadsides in open situations, in turf-y waste spots, and as a weed in arable land.

Very common. April to September, or later. Area general.

One of the most widely diffused of the genus, occurring in the open as well as the enclosed tracts. Grows on the Hoe, at Pennycomequick, and elsewhere close to Plymouth.

492. *V. serpyllifolia*, L. *Perennial Smooth Speedwell.*

Native ; in damp spots by roadsides, on moist banks, in open turf-y places in woods, and sometimes on wall-tops. Very common. March to September, or later. Area general.

Frequent about roadside drains just around the town, and to be seen in the enclosed, the wooded, and the open country.

493. *V. officinalis*, L. *Common Speedwell.*

Native ; on dry or rocky banks, on commons, moors, and in open spots in woods and copses. Common. May to July, or later.

- c. I. St. Germans Beacon ; one patch with bluish-white flowers, 1876. Sheviock ; a plant with nearly white flowers in Sheviock Wood, 1871. St. Stephens. Landrake. Viverdon Down.
- II. Wear, Maker ; *Keys, S. D. Lit. Chron.* 351. Near Saltash. Between St. Mellion and Halton Quay.
- d. III. Keyham Lane, 1874. Plymouth and Saltash Road, near Ford. Warleigh. Sampford Spiney.
- IV. About Plympton and Ridgway ; *Keys, ib.* Rumble, Plym Valley ; some patches with white flowers, close to others, 1872. A variety with flowers of a deep flesh colour in two spots on the open moor ; one near Shaugh, the other in the neighbourhood of the Morley Clay Works, 1878. Sheepstor.
- V. Langdon. Newton Ferrers. Between Lee Mill Bridge and Ivybridge. Venton.
- VI. Holbeton. Between Kingston and Gutsford. Ivybridge. On Dartmoor, near Staddon Barrow.

494. *V. Chamædrys*, L. *Germander Speedwell ; 'Bird's Eye.'*

Native ; on hedge-banks, grassy slopes, in hilly pastures and orchards. Very common. April to June. Area general.

The best-known species of the genus, and one of the most beautiful of our wild flowers. It extends from the coast to the hedge-banks about Dartmoor. A variety with light flowers—milky or bluish white—is rather common, and sometimes grows close to plants with the ordinary blue ones. I have seen it in all the Districts. With flowers of a claret colour at Trevol ; of a delicate flesh colour at Cotehele (District II.) ; of a lavender colour between Lolesbury and Puslinch (v.) ; and on a hedge-bank near

Ivybridge (vi.) with bluish-white, lavender, and the ordinary blue flowers. The way in which plants of this Speedwell with peculiarly coloured flowers grow with others having them of the ordinary bright blue, would seem to show that soil and situation have nothing to do with the production of the variations. We find similar facts in the case of many other species.

495. V. montana, L. Mountain Speedwell.

Native; in woods and other shady places. Common. Part of April to June.

- c. I. Between Hessenford and the coast. Between Filbridge and Killa. Polbathick Wood. Near Clapper Bridge. Near Moditon Mill. Antony.
- II. About Saltash. Wood near Kingsmill. Cotehele.
- d. III. Warleigh Wood; *Jacob, Fl.* part 2. Manadon Wood; *Keys, S. D. Lit. Chron.* 206. Ham. Postham Wood, &c., Tamerton Foliot. Woods of the Tavy Valley.
- IV. Wood by the side of the Plym, near Longbridge; *Jacob, Fl.* part 2. Saltram!; *Keys, ib.*; Efford!; *id., Fl.* iii. 142. Radford Wood. Poole Hill, &c., Egg Buckland. Plympton St. Mary. Bickleigh.
- V. Langdon. Puslinch. Between Yealm Bridge and Flete. Brixton. Lynham. Cornwood. Near Cholwichtown.
- VI. Banks of the Erme above Ivybridge; *Keys, ib.* Between Mothe-combe and Battisborough. Between Kingston and Orcherton. First record: *Jacob*, 1835.

496. V. scutellata, L. Marsh Speedwell.

Native; in bogs, by streams on moors and commons, in marshes and damp meadows. Rather rare, but widely distributed. July to September.

- c. I. In a marsh in the Notter Valley, below Newton House, 1874.
- II. In damp ground in a low bushy pasture near St. Johns, 1872.
- d. III. Roborough Down; *Phyt. vi. N.S.* 354. Swampy spot in a field between Combes farm-house and Weston Mills, 1877. Marsh on the Beer side of the Tavy, between Lophill Ferry and Denham Bridge, with flowers uniformly white, 1876.
- IV. [Very plentifully above the Weir on the Plym, near Cann Quarry; *Rev. W. S. Hore, Jacob, Fl.* part 9.] Marsh below Shalaford Lane, Egg Buckland, 1862; field on Coleridge estate, in the same parish, 1864. Vale of the Mew, between Hoo Meavy and Meavy village. Wet spot on Dartmoor, close to where the road from Cornwood to Shaugh crosses Tory Brook.
- V. Swamp on the green at Westlake, Ermington, 1879. Cornwood; near Dalamore, and between Blachford and the open moor.

VI. Hanger Down, near Harford Bridge ; *Keys, Fl.* iii. 140 ; ! 1879.
First record : *Jacob*, 1835.

497. [V. Anagallis, L. Water Speedwell.]

Native. Probably extinct.

- c. II. On the banks of the Tamar, not far from the Weir Head ; *Jacob*, *Fl.* part 9 ; doubtless identical with 'near Calstock ;' *Keys, Fl.* iii. 141, on faith of a specimen labelled by Dr. Jacob.
- d. III. Keyham, *Mr. F. H. Goulding*.
- IV. Banks of the Plym ; Bickleigh Vale ; *Jacob, ib.*
Not seen at any of the above-named stations for many years past.]

498. V. Beccabunga, L. Brooklime.

Native ; on mud about ponds, by ditches, streams, and roadside drains. Very common. May to September. Area general.

By roadside drains in some of the lanes just around Plymouth. After *V. Chamædrys*, the commonest of the perennial Veronicæ.

EUPHRASIA, Tournef.

499. E. officinalis, L. Common Eyebright.

Native ; on commons, moors, in pastures, and on dry banks. Very common. June to October. Area general.

Very generally diffused : on the warm sea-banks of the coast and on the dry limestone rubble-mounds at Cattedown, as well as on the elevated commons about Dartmoor, and on the moor itself.

Extremely variable, and divided into several species by some of the Continental botanists. We have several forms ; one answering to *E. montana*, Jord., I have gathered at Bircham, Egg Buckland (District iv.), and near Harford (vi.).

BARTSIA, L.

500. B. Odontites, Huds. Red Bartsia.

Native.

a. *verna*, Reich. *Lon. Cat.* ed. 7.

In corn-fields, in waste places and on banks. Very common. June, July.

- c. I. Cutmere. Near St. Germans. Sheviock. Near Trevolland. Landrake. Pillaton.
- II. Tregantle. Rame. St. Johns. On slaty refuse by a quarry near Trevol. Saltash.
- d. III. Pounds, Pennycross. Between Plymouth and Saltash. Between Weston Mills and Honicknowle. Tamerton Foliot.
- IV. Saltram Embankment. Plymstock. Egg Buckland. Hemerdon.
- V. Revelstoke. Newton Ferrers. Near Harestone. Collaford. Between Plympton and Ivybridge. Cornwood.
- VI. Mothecombe. Kingston. Ermington.

b. serotina, Reich. *Lon. Cat.* ed. 7.

On turf banks by roadsides and in pastures. Very common.
Middle of July to September.

- c. I. Seaton Valley. Between Polbathick and Hessenford. St. Stephens. Between St. Mellion and Hatt. Derniford.
- II. Tregantle. St. Johns. Saltash and Callington Road; three plants with white flowers, among others, at Carkeel, August, 1879.
- d. III. St. Budeaux. Between Beer Alston and Tavistock. Sampford Spiney.
- IV. Between Turnchapel and Mount Batten. Saltram. Egg Buckland.
- V. Wembury. Brixton, and between that and Plympton.
- VI. Holbeton.

The differences between the varieties *verna* and *serotina* are considerable, and by taking the characters assigned to each I find it easy to divide between them the examples of the aggregate *B. Odontites*. *Verna* is more a weed of cultivated fields than *serotina*. I think the latter is the commoner plant.

501. *B. viscosa*, L. *Yellow Bartsia*.

Native; in damp pastures, marshes and meadows, and in other moist turf places. Rather common. July to September.

- c. I. Near Port Wrinkle, and elsewhere in the parish of Sheviock, 1871, 1875. Seaton Valley; sparingly in a marsh near the sands, 1876. Near Caracawn Cross, 1873. Clapper Bridge, &c., Pillaton. St. Mellion. Field at Penters Cross, sparingly, 1879.
- II. Near the pound, Antony; near the Weir Head; plentifully in a field between Trevol and St. Johns; *Jacob, Fl.* part 3; seen sparingly in a marsh near St. Johns, 1873; and elsewhere in the neighbourhood sparingly or singly in some other years. Near the Preventive Station, Rame Head, 1862; between Penlee Point and Rame Head, 1877. Near Carkeel, sparingly, 1869; one plant, 1875.
- d. III. Near Morwell; *Lysons' Devonsh.* cclxxii., 1822. Field by the Tavy, just above Double Water, 1862.
- IV. On a small piece of marshy ground between the fort on Staddon Heights and Hooe; *Jacob, Fl.* part 3. Shaugh; Bovisand!; *Rarens. Fl.* 48. Goodameavy; Bickleigh Vale; *Keys, Fl.* iii. 139. Marsh, Plym Valley, 1878, &c.
- V. About the springs which rise near the tops of the hills that overlook Bigbury Bay; Yonge; Poltchele, *Hist. Devonsh.* i. 90; seen on the sea-bank at Revelstoke, 1874; near Worsewell, 1878, &c. Spriddlestone. Marsh by the Yealm, between Lee Mill and Yealm Bridges, 1870. By the Ridgway and Ivybridge

Road, near Lee Mill Bridge, 1867. Abundant in some enclosed land by Crownhill Down, 1878.

- VI. Ivybridge; *Ravensh. Fl.* 45; 1877. Between the Anchorist Rock and Mothecombe. Near Efford. Holbeton, 1874. Oldaport. Field below Hanger Down, in plenty, 1879.

First record: *Polwhele*, 1797, on the authority of *Mr. Yonge*.

PEDICULARIS, *Tournef.*

502. *P. palustris*, L. *Upright Lousewort.*

Native; by streams in the moory tracts, in peaty meadows and damp pastures. Rare. June to August.

- c. I. By a stream running into the Notter at Clapper Bridge, 1869. Very sparingly in one place in the Seaton Valley, between Hessenford and the coast, 1874; several plants in a swamp by a tributary stream near Treloy, 1875.

- d. III. [Near the pottery at Keyham. *Mr. Hunt*; marsh near Milehouse; *Banks, Fl.* part 3. Near the head of the creek, Keyham, 1844: none of it was to be seen last year (1845); *Keys, S. D. Lit. Chron.* 206 and *Fl.*. Specimen labelled 'Keyham Lake, 1843, C. Harper,' in *Herb. Easton.*] On the leat banks near Roborough, in fair quantity, 1863: perhaps since destroyed by the repair and alteration of the banks. Roborough Down; by a small stream from the Devonport leat.

- IV. Boggy meadow above Dewerstone rocks!; banks of the Meavy river; *Keys, Fl.* iii. 138.

- VI. Ivybridge; *Keys, ib.*

First record: *Banks*, 1830.

503. *P. sylvatica*, L. *Procumbent Lousewort.*

Native; on heaths, in barren pasture land, in waste furzy or turfy places, and in meadows. Common. April to June, and often again later.

- c. I. Between Hessenford and the coast. Georges Lane, Sheviock. Notter Valley. Viverdon Down. Cadsonbury.

- II. Maker. Near Carkeel. In a low pasture near St. Johns village. Marshy ground near Hatt. Between St. Mellion and Halton Quay.

- d. III. Near Postham, Tamerton Foliot. Tavy Valley. Roborough Down. Sampford Spiney.

- IV. In furzy ground on limestone just above Billacombe Brook. Fursdon, Plymbridge Road, &c., Egg Buckland; two plants with white flowers, one within a foot of another with pink, by this road, 1872. Three with white flowers, growing with others, in furzy ground by Cann Wood, 1876. Hemerdon Ball.

- V. Revelstoke. Near Langdon. Brake near Elburton. Green at Westlake. Near Stretchley. Crownhill Down.
 VI. Erme Valley; between Ivybridge and Harford, and on Dartmoor. Found mostly in the less cultivated tracts.

RHINANTHUS, L.

- 504. R. Crista-galli, L.** *Common Yellow Rattle.*

- Native; on grassy banks, in meadows and pastures. Common. May to July.
- c. I. Between Polbathick and Trerule. St. Stephens. Tideford. Landrake. Between Hatt and Penters Cross.
 - II. Rame. Carkeel. In a peaty enclosure from Hingston Down.
 - d. III. About Keyham; Boxhill, *Mr. Hunt; Banks, Fl.* part 3. Railway bank below the Saltash Road. Between Beer Alston and Tavistock.
 - IV. On limestone rubble from the Oreston Quarries. Saltram. Plymbridge Road, &c., Egg Buckland. Sheepstor. In a very wet bog below Shell Top, Dartmoor, 1868.
 - V. Between Puslinch and Lolesbury. Plymouth and Yealmpton Road. Near Cholwichtown. Cornwood.
 - VI. Orcherton, and near Oldaport. Caton.

A very widely distributed species, that might perhaps be put in the 'very common' list. It is curious to find it, as in District iv., occurring on the dry limestone rubble-heap and in the wet moorland bog.

MELAMPYRUM, Tournef.

- 505. M. pratense, L.** *Common Cow-wheat.*

- Native; in woods, copses, and on banks in their vicinity. Common. June, July, and sometimes later.
- c. I. Between Hessenford and Seaton. Sheviock. Tideford. Pillaton.
 - II. Near Kingsmill. Between Ashland and Harrowbarrow. Cotehele Wood.
 - d. III. Hedge-bank between Honicknowle and Woodlands Fort. Looseleigh, Warleigh, &c., Tamerton Foliot. Hedge-bank between Fancy and Roborough. Woods of the Tavy Valley. Between Milton and Maristow.
 - IV. Derriford, Fursdon, &c., Egg Buckland. Common Wood; plants with white flowers growing with others. Bickleigh; near the bridge with flowers of a golden yellow.
 - V. Between Efford and Harestone and near Fordbrook, Brixton. Brake near Elburton. Cornwood.
 - VI. Copse by the Erme, near Efford. Kingston. Flete. Ivybridge. A sylvester species, generally in abundance where aboriginal wood remains. Its flowers vary in tint from white to golden yellow, though usually of a pale yellow.

OROBANCHACEÆ.

OROBANCHE, L.

- 506. O. major, L.** *Greater Broom-rape.*

Native ; parasitic on *Sarothamnus Scoparius* and *Ulex europaeus*.

Rather rare. June, part of July.

- c. I. On a bank by a lane near Pillaton, as you ascend towards the village from the vale between it and St. Mellion ; apparently on *Sarothamnus*, 1869.
- II. In the glen between Vernico and Pentillie ; *Jour. R. Inst. Corn.* iii. 50.
- d. III. Morwell Rocks ; *Gould.*, *Phyt.* iii. 643. Wood between Blaxton and Inchers, 1877. Hillside above the right bank of the Walkham, near Sampford Spiney, 1868.
- IV. Single specimen on Broom in a hedge by the side of the Dartmoor tram-road, near the tunnel, Egg Buckland, 1861 ; Fancy Wood ; *Hore* ; West Wood, banks of the Plym, 1853 ; *Julian, Keys, Fl.* iii. 126. At least a dozen plants in the first-named locality in 1876, on both *Sarothamnus* and *Ulex europaeus*. Noticed in or about the Plym Valley, at Rumple, Common Wood, Turtles Wood, and Riverford, on different occasions. Near Bottle Hill Mine, on *Sarothamnus*, 1864 ; also in 1874, some of the plants perhaps on *Ulex europaeus* ; the elevation about 450 feet.
- VI. Hillside on the right bank of the Erme, above Ivybridge, on *Ulex europaeus*, 1871.

I have no record of the occurrence of this on *Ulex Gallii*, though it probably grows on this species as well as on *U. europaeus*.

First record : *Goulding*, 1849.

- 507. O. Hederae, Duby.** *Ivy Broom-rape.*

Native ; parasitic on *Hedera Helix*. Very rare. June to August.

- c. I. Downderry ; *Mr. W. B. Waterfall*, 1877.
- d. IV. Two or three plants on Ivy, growing over an old limekiln at Catte-down, 1872 ; two on a bank below it, 1877.
- VI. Several on Ivy on a sandy hedge-bank at Saltercress, on the Kingston side of the Erme estuary, with *Hypericum montanum* and *Orchis pyramidalis*, 1875 ; two there, 1876.

The three stations are all very near salt water.

First record : *Briggs*, 1873, in *Jour. Bot.* ii. N.S. 375.

- 508. O. minor, L.** *Lesser Broom-rape.*

Colonist or Casual. Parasitic on *Trifolium pratense*, and some other plants. Very rare. July to October.

- c. I. In some quantity in a field of clover at Hessenford ; noticed in only a part of the field, 1875.

- d. III. One specimen on *Crepis virens*, just behind the palings of the embankment of the leat, near Devonport Railway Station, 1869; *Holmes, Keys, Fl.* iii. 128. A single immature *Orobanche*, probably this, in a hay-field above Weston Mills Lake, June, 1875.
- IV. Clover-field, Shaugh, October, 1865, and July, 1866; *Mr. Stewart, Keys, Fl.* iii. 128. Rather plentiful in a clover and grass-field at Fursdon, Egg Buckland, occurring with *Cuscuta Trifolii*, July, 1866: none to be seen the succeeding year; in plenty in an adjoining field, and again with *Cuscuta*, September, 1875. Somewhat sparingly among clover and grass in a field at Common Wood, where was also *Trifolium hybridum*, July, 1872.

Perhaps in every case introduced with seeds of clovers and grasses, and so only entitled to rank as a Casual, not Colonist.

First record: *Briggs*, 1866.

b. amethystea, Thuill. *Bluish Broom-rape.*

Native; parasitic on *Daucus*, &c., on cliffs by the sea. Rare, and very local. June, early part of July.

- c. I. Dotted along the cliffs of the coast-line from, or very near, the Seaton estuary to the east limit of the District at Tregantle; mostly on *Daucus*, but seen also on *Plantago Coronopus*.
- II. Whitsand Bay; *Hore*, in *Phyt.* ii. 239: who says, "Collected by the Rev. C. A. Johns, Mr. Thos. Edmonstone, jun., and myself." Seen in spots on the cliffs of the coast-line of the District from Tregantle on to near the Rame Preventive Station. Several plants on a bank above the coast at Kingsand, on the western side of Plymouth Sound, June, 1865.
- d. IV. Plymouth, on cliffs under the Hoe, near the easternmost part of West Hoe Quarries, 1869, *Dr. Clay*; a single specimen at Tin Side, the extreme eastern part of the Hoe, 1850, *Mr. Bunker*; *Keys, Fl.* iii. 129. I saw two or three plants close to the West Hoe Quarries, about 1875.

In *Phytologist*, vol. ii. 943, Mr. Pascoe says, "We are indebted to the Rev. W. S. Hore for having brought this plant under the notice of British botanists, although it was discovered many years before by the Rev. C. A. Johns." Mr. W. B. Waterfall, as well as myself, has seen it on *Plantago Coronopus*. As it is principally on a biennial plant that it occurs, it can hardly be more than annual in duration. Some seasons it is to be seen in considerable quantity by the coast-line of Districts I. and II., extending altogether for a distance of nine or ten miles. It has never been met with on that of the Districts lying east of the Plym.

First record: *Hore*, 1845.

VERBENACEÆ.

VERBENA, *Tournef.*

509. *V. officinalis*, *L.* Common Vervain.

Native ; in dry barren pastures, on banks, in waste spots near houses, and by roadsides. Common. Latter part of June to September.

- c. I. St. Germans ; Antony Passage ; *Keys, Fl.* iii. 196. Downderry. Sheviock. Markwell. St. Stephens.
- II. Rame ; *Keys, ib.* Between Penlee Point and Rame Head. Millbrook. Between Torpoint and St. Johns. Landulph. St. Dominick.
- d. III. Between Plymouth and Milehouse, and elsewhere by the road to Saltash. Blaxton. Tamerton Foliot. Holes Hole.
- IV. Laira Embankment ; Crabtree ! ; *Keys, Fl.* iii. 195. Compton Gifford. Egg Buckland. Common Wood. Colebrook.
- V. Revelstoke. Newton Ferrers. Knighton. Noss Mayo. Elburton. Cornwood.
- VI. Mothecombe. Holbeton. Kingston. Modbury.

Partial to warm situations. Often abundant in poor dry pastures, and a nuisance to the agriculturist.

LABIATEÆ.

LYCOPUS, *L.*

510. *L. europæus*, *L.* Gipsy Wort.

Native ; in damp spots by ditches and rivers, and in woodland swamps. Common. Part of July to September.

- c. I. Seaton, and between that and Hessenford. Near Moditon Mill. Between St. Mellion and Pillaton, and elsewhere near the latter place. By the Notter, between Sheviock and Hawks Woods. Near Clapper Bridge. Marsh below Derniford farm-house.
- II. Weir Head ; *Banks, Fl.* part 5 ; still in that neighbourhood, 1877.
- d. III. [Edge of the pond near the sea at the north-west extremity of Keyham ; *id. et. ib.* Specimen labelled 'Keyham, 1842 ; Herb. Easton.] Manadon Wood ; banks of the Tavy, near Maristow ! ; banks of the Tamar, near Newbridge ; *Keys, Fl.* iii. 184. By Weston Mills Lake, near Barn Copse, 1879. Near Budshead. Warleigh Wood, and by the mill-stream, Tamerton Foliot. Near Holes Hole.

- IV. Bickleigh Vale, plentiful ; extreme point of the race-ground embankment, near Saltram Wood ; New Canal, Borrington ; *Banks, Fl.* part 5. [Used to grow in the Laira marshes ; *Keys, Fl. ib.*] Still occurs in certain spots in or about the Plym Valley. Bircham and Shalaford Lane, Egg Buckland. Plympton St. Mary ; near Loughtor Mill, and in a marsh towards Crabtree. Near Hayle farm-house, Bickleigh.
- V. On the coast between Revelstoke Church and the Anchorist Rock. Yealm Vale, between Weston Mill and Lee Mill Bridge, and elsewhere in that neighbourhood. Blackpool. Cornwood.
- VI. Erme Valley, between Flete and Mothecombe. Gutsford Bridge. Ivybridge.

First record : *Banks*, 1830.

MENTHA, L.

511. M. rotundifolia, L. Round-leaved Mint.

Denizen, except perhaps in a few spots, where it may be Native. In waste places, on banks and by roadsides about villages or houses, in orchards and pastures. Rather common. August to September.

- c. I. Near Antony ; *Phyt. v. N.S.* 370. Seaton, in the neighbourhood of an old farm-house. Downderry. Polscove. By the road to Hessenford, close to the Torpoint and Liskeard Road. About Landrake.
- II. Rame ; *Keys, Fl.* iii. 182 ; in several places lying between the church, Forder and Cawsand. St. Johns, close to the village, between that and Millbrook, also in two places under a hedge between Millbrook and Maker. Near a farm-house at Kingsmill, and in an orchard between that and Calloget. Halton, about a hedge-bank close to the quay, near *Anchusa sempervirens*.
- d. III. Honicknowle. Roadside between Knackersknowle and Tamerton Foliot ; a form with oblong leaves : on the other side of the road *Petasites fragrans*. In a cherry orchard at Gawton, Beer Ferrers. Hedge-bank near Tavistock, by the Callington Road ; perhaps just beyond the limit of the District.
- IV. Staddiscombe (*var. clandestina*, Wirtg.) ; specimens collected by *J. Banker* ; *Baker, Jour. Bot.* iii. 236. Cattedown Quarries ! ; one plant, 1863 ; Goosewell farm, Plymstock, *Goulding* ; *Keys, Fl.* iii. 181. Sparingly in a damp spot in a meadow at Colwell, Egg Buckland, 1872. Orchard close to Hayle farm-house, Bickleigh. Meadow, Plympton St. Mary, with *Anchusa sempervirens* in the old Priory ground ; perhaps recently destroyed by building.

V. Noss !; *Keys, ib.* Bridgend. Newton Ferrers, near the church-yard.

VI. Holypore (Oldaport) estate ! near Holbeton, *Julian, Keys, ib.* Near a farm-house between Kingston and Modbury. Torr, near Kingston, and between the latter place and Ringmore, in two or three places.

If Native anywhere it is most likely to be so in Districts I., II., and VI. Although it occurs in some damp spots, it grows also in very dry ones.

512. M. sylvestris, L. Horse Mint.

Denizen ; in waste places. Very rare. August, September.

- c. I. On the border of a field at Seaton, by the lane leading up from the sands towards St. Germans ; on a hedge-bank on the opposite side of the road *Mentha rotundifolia* occurs, and in a small field near *M. Piperita* and *M. viridis*. Sparingly in a damp sandy spot by the Notter, close to Notter Bridge ; very near cottages.
- d. V. In great quantity among long grass and weeds between Passage Wood and the ruin of Worsewell Fort, above the Yealm estuary at Revelstoke, 1878.

Under *M. sylvestris*, L., with the reference 'E. Bot. t. 686,' there is in *Hook. Brit. Fl.* ed. 3, 276, the following : "Mr. Drummond's specimens" (from Forfarshire), "and others gathered by Mr. Banks, near Plymouth, have the partial bracteas much longer than the flower, and far more conspicuous than in my other specimens and the figure in E. Bot." Unfortunately no Mints are mentioned in Banks's incomplete *Flora*.

513. M. viridis, L. Spear Mint.

Denizen ; in waste spots and on hedge-banks, &c. Very rare. August, September.

- c. I. In plenty on a hedge-bank by a field near a house at Seaton. A large patch in a waste spot near the quays at Tideford, not far from a cottage, 1873.
- d. IV. In an orchard at Fursdon, Egg Buckland, near where there was formerly a cottage. In a small field, at one time an orchard or garden, near Bickleigh, 1863.
- VI. In fair quantity at the bottom of a damp hedge-bank by the road to Modbury, at Sequers Bridge.

Hardly entitled to a place in the Denizen class.

514. M. Piperita, Huds. Peppermint.

Denizen ; in damp or marshy ground, by streams, and in waste places. Rare. August, September.

- c. I. In some quantity in a field close to an old farm-house at Seaton.
- II. A small patch in a waste spot at Tinnel.

- D. III. On rubble in a waste spot by the inlet at Tamerton Foliot, no doubt only a recent outcast from a garden, 1873.
- IV. Very sparingly by the stream at Shalaford, Egg Buckland, between the cottages and the osier grounds, likely to have come from one of the cottage gardens by the stream above. In marshy ground by the Plym, between Riverford and Rumble, not confined to one spot, but I suspect derived originally from some garden, as in one of the places where it grows I some years ago found a small plant of one of the cultivated kinds of Fuchsia, and have also noticed *Ribes nigrum*. Very sparingly in a vale at Common Wood, Egg Buckland, found with *M. rubra*, and I have no doubt an introduction.
- V. In three or four spots by the stream in the valley below Wembury Church. In moderate quantity near Fardel, by the Cornwood and Ivybridge Road.
- VI. Erme Bridge ; specimen, 1851, *Herb. Goulding* (var. *vulgaris*). The Plym Valley plant, growing near Rumble, is the variety *a. officinalis*, Sole : the Common Wood one, *b. vulgaris* ; most of the rest look too intermediate to be referred to either.

515. M. hirsuta, L. Hairy Water Mint.

Native ; in marshes, by rivers, streams, ditches, damp spots by roadsides, and in swamps. Very common. August, September. Area general.

One of the commonest Mints ; *M. arvensis* may be as frequent. A variety with white flowers grows in a damp place by Hay Lane, near Antony (District II.). Such a variation seems very uncommon in the genus ; this is the only instance in which I have found a Mint with white flowers.

516. M. sativa, L. Marsh Whorled Mint.

Native ; in damp waste spots, by roadside drains, in meadows, marshes, and damp pastures. Very common. August, September. Area general.

Extends over all the enclosed country. Many plants look intermediate between the type and the variety *b. paludosa*. The latter occurs at Polscove (District I.), Fursdon (IV.), near Elburton (V.), &c. The typical *M. sativa* seems to pass by the variety *paludosa* into *M. hirsuta*, and the appearance of some of the forms found about Plymouth is such as to make one feel inclined to adopt the view of Smith, that *sativa* is only a variety of *hirsuta*. *M. sativa* is most variable.

var. *subglabra*, Baker.

By roadside drains and in damp waste places, mostly near houses ; also in marshes. Rather common.

- c. I. Hessenford, and between that and Caracawn Cross ; also between the former place and Minard Cross, and close to the latter place ; looking as if derived from ancient cultivation. By the Saltash and Landrake Road, near Notter farm-house. Bank close to St. Mellion village, by the road to Pillaton.
- II. By the Saltash and Callington Road, at Hatt.
- d. III. Near St. Budeaux, by the road to Honicknowle, sparingly, and perhaps now extinct. Tavy Valley, between Lophill and Buckland Abbey ; a peculiar form, with the whorls confined to the upper portion of the stem, and with bracts only about twice the length of the upper whorls. This approaches *rubra* in the size of the flowers, and M. Déséglise remarked, on receiving a specimen, "Je vois dans cet échantillon une Menthe du groupe de *M. rubra*, Sm., et non une *M. sativa*."
- IV. Plym Valley, near Plymbridge ; at Leigham with spicate flowers ; a form in the shape of the leaves, size of the flowers, and depth of the calyx-tube, nearer *M. rubra* than the plants recorded for Districts I. and II. One similar to them grows in this valley in a pit in a marsh a little below the bridge. By the Mew, between Hoo Meavy and Meavy village ; similar to the plant last named. Waste spot near Loughtor Mill.
- V. By the turnpike road near Yealm Bridge, towards Ermington ; very sparingly by a drain below an orchard. Sparingly by the turnpike road near Lee Mill Bridge. By a stream, and also a patch on a mound in a meadow, at Cornwood ; a form with very short bracts to the upper whorls.
- VI. Near Torr, Kingston, by the Mothecombe Road. Near Ivybridge, by the Exeter Road. Roadside near Harford Church.

I believe that *Mentha subglabra* has at most of its stations spread from ancient cultivation. The form noted as occurring at Cornwood I saw in 1879 in a garden in that neighbourhood, and heard it called 'Peppermint' by the cultivator. Mr. Baker himself has named specimens from several of the local stations '*subglabra*.' To me some of our examples seem very near *gentilis*.

517. *M. rubra*, Sm. *Tall Red Mint.*

Denizen ; in damp grassy places. Very rare. September.

- d. IV. Sparingly in a damp spot by the Plymouth and Yealmpton Road, at Billacombe. In small quantity in a field at Common Wood, Egg Buckland ; also sparingly in a vale below, close to Fancy Wood.

The fact that *Mentha Piperita* is associated with this handsome Mint in the vale at Common Wood, increases the suspicion of its being an introduction. At the present day it may be seen in cultivation in the

neighbourhood of Plymouth. It has a strong smell, but very dissimilar to that of *M. Piperita*.

518. *M. gentilis*, L. Bushy Red Mint.

Native ; in moist waste places, marshes, and damp ground by rivers, streams, and ditches. Rare. August, September.

- c. I. Sparingly and small by the roadside at Sconner, near Polbathick, Sheviock, 1878.
- d. III. Damp spot by the roadside between Knackersknowle and Tamerton Foliot.
- IV. By the lane leading to Woodford farm-house, Plympton St. Mary, from the Plymouth and Exeter Road ; also in an adjoining field. About a drain, and elsewhere in a marsh below Saltram grounds, between Longbridge and Plympton St. Mary Church, 1867 ; perhaps now extinct, through alteration of the drainage system in the locality a few years ago. In barren pasture land, Common Wood, Egg Buckland.
- V. In plenty at the side of the road immediately in front of the Vicarage House, at Cornwood.

This has a sweet aromatic scent, more agreeable than that of *M. rubra*. I have seen seed on the Cornwood plant.

519. *M. arvensis*, L. Corn Mint.

Native ; in cultivated ground, pastures, by roadsides, and in waste places. Very common. July to September. Area general.

The only one of the Mints that is common in cultivated ground. It is not however restricted to it, being a frequent roadside species. A form gathered at Staddon seems *M. nummularia*, Schreb. The odour of *M. arvensis* is stronger than that of *M. sativa*, and differs from that of all our other Mints. It produces seed in abundance.

520. *M. Pulegium*, L. Pennyroyal ; 'Organs.'

Native or Denizen ; in pasture land. Very rare. July to September.

- c. II. Mount Edgcumbe Park ; sparingly in old pasture land, but near the end of a small channel formed to drain off water from a path, so perhaps floated to the spot from a lodge at no great distance above, 1866.
- d. [III. At the point of junction of the Maristow and Blaxton Roads, July, 1845 ; *Gould. and Harper, S. D. Lit. Chron.* 131. No more recent record, but species seemingly escaped from cultivation in the locality.]
- IV. Bovisand, near Plymouth, 1859 ; *Keys, Fl. iii.* 184 : extinct ?

- V. In abundance in a grass-field above Bigbury Bay, near Lambside ; also about a cart-track in two neighbouring fields ; in one growing likewise in a spot of ground just above the cliffs, apparently only recently broken, 1874 ; a small patch on Beacon Hill, 1875. In considerable quantity in two grass-fields between Lambside and Pool Mill, 1874.
- VI. Four small patches in a waste spot by the roadside, near Carsewell, 1874.

Formerly much cultivated by cottagers for the preparation of "Organ Tea."

M. citrata, Ehrh. Alien. Found on the border of a garden-plot, near a house between Knighton village and Wembury Church. Admitted into gardens on account of its agreeable smell, and known as "Bergamot Mint."

THYMUS, L.

521. T. Serpyllum, L. Creeping Wild Thyme.

Native ; on commons, in old turf pastures, and on dry banks, especially in heathy tracts and on the coast. Common. July to September.

- c. I. Crafhole and Port Wrinkle ; noticed with white flowers between the latter place and St. Germans Beacon. St. Stephens. Pillaton. St. Mellion.
- II. Cawsand ; Whitsand Bay ! ; *Keys, Fl.* iii. 186. Torpoint. St. Johns. Noticed with white flowers near Lugger's Cave, Whitsand Bay, and between St. Mellion and Callington.
- d. III. Devil's Point, Stonehouse. King's Tamerton, &c., St. Budeaux. Between Lophill and Beer Ferrers. Seen with white flowers on Roborough Down.
- IV. On the slopes of the Hoe, under the Citadel, and at Cattedown ; Bickleigh ; *Keys, S. D. Lit. Chron.* 351, and *ib.* On limestone by Radford Quarry, Mount Batten, &c. Egg Buckland.
- V. Wembury. Revelstoke ; noticed with white flowers in three or four places on the coast, 1875.. Cornwood.
- VI. Ivybridge ; *Keys, Fl.* iii. 185. Mothecombe. Kingston ; the variety with white flowers, close to the other, above the mouth of the Erme, 1875.

Varies greatly in the size of the flowers and hairiness of the leaves.

522. T. Chamædrys, Fries. Larger Wild Thyme.

Native ; in pasture land. Very rare. July to September.

- c. II. A patch by the military road above Whitsand Bay, between St. Winnow and Rame Church, 1876. Trevol, near Torpoint.

- d. IV. Two patches on a dry bank in a field on Derriford estate, Egg Buckland.

Looks considerably more like the cultivated Thyme (*T. vulgaris*) than does *T. Serpyllum*.

ORIGANUM, L.

- 523. O. vulgare, L. Common Marjoram.**

Native; on banks, and in bushy and rocky waste places, especially in a limestone soil. Rather, but locally, common. July to September.

- c. I. Perhaps nowhere indigenous in this District. Seaton; quite sparingly by the road to St. Germans from the sands. By the Crafthole and Looe Road, near Narkurs. Bank between Tifford and Heskyn Mill. Near Moditon Mill. Trevolland and Shillingham, St. Stephens.
- II. Hedges in the road between Saltash and Carkeel; *Banks, Fl. part 5.* Between Cremyll Beach and Maker Church; *Keys, Fl. iii. 185.* Hedge-bank near Bittleford farm-house, Pentillie.
- d. III. Cliffs on the north side of the Longroom Barracks; about the old pottery, Keyham; *Banks, ib.* About King's Tamerton; in this neighbourhood with both purplish and dull white flowers. Near Tamerton Foliot, by the road to Knackersknowle. Blaxton. Between Roborough Down and Buckland Monachorum: near a bush of *Symphoria racemosa*. Between Morwellham and the Weir Head. Between Horrabridge Station and Tavistock. [A small patch on a hedge-bank near Pennycomequick, by the road to Stoke, 1879; since destroyed by building.]
- IV. In bushy places on the gravelly soil in Cattedown Quarries; *Banks, Fl. ib.* Abundant on the limestone beds between the Plym estuary and Elburton; in some spots with white flowers. Between Staddiscombe and Bovisand; the plant with white flowers here also. Bank between Tothill and Laira. Near Newnham. Near Bickleigh Bridge, by the road to Plympton. Lane to Bickleigh from Roborough Down.
- V. Very abundant about Wembury; *Jacob, Fl. part 8.* Between Lolesbury and Battisborough. Near Tor, and between Broadmoor and Gala Cross, Newton Ferrers. Abundant for a few yards between Ridgway and Ivybridge.
- VI. Produced in the South Hams in sufficient quantity to supply all the inhabitants with tea; *Polwh. Hist. Devonsh. i. 90, 1797.* About Mothecombe. Kingston, with white flowers in that neighbourhood. Near Holbeton. Near Ivybridge.

Indigenous at least on the limestone of District iv., and in parts of Districts v. and vi. At many of the other stations probably derived from ancient cultivation.

Butterflies and Humble Bees obtain a great deal of food from the flowers of this species, and so much frequent them as often to make the banks where the plant grows seem alive with insect life.

First record : *Polwhele*, 1797.

CALAMINTHA, Moench.

524. C. Clinopodium, Spenn. Wild Basil.

Native ; on dry banks and in bushy places. Common. July, August ; sometimes later.

- c. I. Near St. Germans ; *Keys, Fl.* iii. 187. Between Antony and Tregantle. Pillaton.
- II. Trevol, near Torpoint ; *Johns, Keys, ib.* Near St. Johns village, in a marsh by the Lake. Carkeel. Landulph. Between Penters Cross and St. Mellion. Between Etheric and Cotehele Quay.
- d. III. Plymouth and Saltash Road. Ham Lane. About Tamerton Foliot. Beer Ferrers.
- IV. Saltram ! near Plymouth, rarely white-flowered ; *Keys, ib.* Furze Hill Lane, very sparingly, 1872. Mount Batten. Plymstock. Staddon. Efford Lane. Egg Buckland ; near the village, Common Wood, &c.
- V. Wembury. Between Battisborough and Lolesbury. Dunstone. Near Fordbrook. Lane between Yealmpton village and Yeo ; a plant with white flowers, and another with purplish-white, growing close to one with them of the ordinary colour, 1875.
- VI. Ivybridge ; *Keys, ib.* Holbeton. Flete.

Less common than *C. menthifolia* ; doubtless in many parts of England the converse would be the case.

525. C. Acinos, Clairv. Basil Thyme.

Native or Colonist ; in fields, principally those of fodder grasses and clovers ; on limestone rubble, and in other dry spots. Rare. June to September.

- c. II. In considerable quantity in a grass-field between Rame Head and Penlee Point, August, 1875.
- d. III. Hill between Blaxton and Maristow, July, 1845 ; *Gould. and Harper, S. D. Lit. Chron.* 131 ; in plenty in a poor dry grass-field in that neighbourhood, adjoining heathy ground ; many plants with white flowers ; appearing also as a corn-field weed, 1868 ; still in the locality in a grass-field, some with white flowers, 1871 ; species still there, 1877. Keyham, 1847 ; *Keys, Fl.* iii. 187 ; specimen thence in *Herb. Easton*. In a hay-field above the western shore of Weston Mills Lake, 1875. A few plants in a stubble-field above the left bank of the Tavy, between Denham Bridge and Double Water, 1867.

IV. Quarry near Saltram ; *Jacob, Fl.* part 6 ; probably at Pophlet, where I saw it in 1861 ; in plenty in a field in that neighbourhood, 1866. Egg Buckland Down, 1853 ; *Keys, ib.*, doubtless in a field ; in one there in 1866 ; also in 1872, amongst clover and grass. Found by my brother rather sparingly on a bank by the Military road below Austen Fort, Egg Buckland, 1878.

V. Sparingly in one place on the sea-bank at Revelstoke, near Worsewell, 1875.

First record : *Jacob*, 1835.

526. C. menthifolia, Host. Common Calamint.

Native ; on hedge-banks and in dry waste places. Very common. July to October.

- c. I. Near Notter Bridge ; *Keys, Fl.* iii. 186. Between St. Germans and Seaton. Polbathick. Sheviock. Trevolland. St. Erney.
- II. Maker ; Millbrook ; *Keys, ib.* About Antony. Saltash. Landulph. St. Dominick.
- d. III. Between Mutley and Burleigh. About King's Tamerton. Tamerton Foliot. Between Roborough and Maristow. Beer Ferrers.
- IV. Laira ; Plymstock ; between Colebrook and Shaugh ; *Keys, ib.* Efford Lane. Widey, Fursdon, &c., Egg Buckland. Plympton St. Mary.
- V. Revelstoke. Elburton. Yealmpton.
- VI. Ivybridge ; *Keys, ib.* Mothecombe. Holbeton. Kingston. Modbury.

b. Briggsii, Boswell-Syme.

A slight variety only.

- c. I. Between Seaton sands and Tregunnick farm-house. Near Notter Bridge, by the Landrake Road.
- d. V. Bank by the Plymouth and Ivybridge Road, near Lee Mill Bridge. Near Yealm Bridge, by the Plymouth and Totnes Road. Langdon. Newton Ferrers. Elburton.
- VI. Mothecombe, in the village. Holbeton. Near Sequers Bridge. Near Strood, Ermington. Modbury. Near Ivybridge.

The figure of this variety in *English Botany* ed. 3 (MLI.) was drawn from specimens sent from District v. Babington considers it *C. ascendens*, Jord. It graduates insensibly into the typical plant, and the intermediate forms are frequent. It probably grows in more than the three Districts whence I have recorded it.

C. Nepeta, Clairv. Yealmpton ; *Ravensh. Fl.* 51. Error. See *Keys, Fl.* iii. 186, note.

MELISSA, L.

527. M. officinalis, L. *Common Balm.*

Alien ; now established on the borders of gardens and in waste spots near houses. Rather common. July to September.

- c. I. Trevollard and Trehan, St. Stephens. Tideford. Near a ruinous house between Heskyn and Cutcrew Mills. Roadside between Clapper Bridge and Blunts, in considerable quantity and at some distance from any house.
- II. Between Torpoint and Wilcove ; *Keys, Fl.* iii. 188. Between Forder and Rame Church, and near Wiggle, Rame. Tregantle. A single small plant on top of a wall between Millbrook and Weir, seemingly sprung from seed at the spot, 1872. Pill, near Saltash. Kingsmill. Elbridge. Tinnel.
- d. III. Hall (Holes) Hole, Beer Alston, October, 1848 ; *G. Maw, in Bot. Gaz.* i. 307. Between Lophill and Milton ; *Keys, Fl. ib.* Honicknowle. Between Whitleigh and Budshead.
- IV. Stoneybridge and Fursdon, Egg Buckland. Roadside, Plymbridge. By Larkham Lane, Plympton St. Mary, near farm-houses. Elburton.
- V. About Netton farm-house, and between that and the Parsonage-house, Revelstoke. Winston. Wiverton. Yealm Bridge, by the road to Plympton.
- VI. By the mill-stream at Orcherton. Ermington, in a bushy waste spot, opposite the Vicarage-house.

Although established in so many places, it has as yet, in almost all cases, only got a little way off from the spots where it was originally grown.

An infusion of this herb was formerly much drunk by the country folk, and they still consider its bruised leaves, with salt and honey, necessary for 'seasoning the bee-but,' or hive, before the young swarm is shaken into it.

First record : *Maw, 1849.*

NEPETA, L.

528. N. Cataria, L. *Catmint.*

Denizen ; in waste or bushy spots, generally near houses. Very rare.. July to September.

- c. I. Trevollard ; *Keys, Fl.* iii. 189 ; a single plant on the border of the Green, 1871.
- II. Near Millbrook ; *Mr. R. Oliver, Jacob, Fl.* part 7 ; in fair quantity, growing mostly from between stones placed against a bank near a house, with *Smyrnium* and *Artemisia Absinthium* in the neighbourhood, 1873.

d. IV. Wembury ; *Mr. C. Johns, Jacob, ib.*; in considerable quantity on a bushy bank by Cliff Road, but extending over a very small piece of ground ; only just within the eastern boundary line of this District, 1873.

First record : *Jacob*, 1835.

529. M. Glechoma, Benth. Ground Ivy.

Native ; on hedge-banks, in copses, woods, and hilly pastures.

Very common. March to June. Area general.

One of the commonest species of the Order. The variety *hirsuta*, noticed in a field at St. Budeaux, and on a cliff by Weston Mills Lake (District III.). This plant is still gathered for use as a medicinal herb.

SALVIA, L.

530. S. Verbenaca, L. Wild English Clary.

Native ; on rocky banks, in waste places and dry pastures, especially in a calcareous soil or near the sea. Rather, though locally, common. May to September.

- c. I. Banks by the coast about Seaton and Downderry.
- II. Near the Preventive Service House, Rame ; *Rev. Dr. Jacob, Banks, Fl.* part 3. Between Maker and Millbrook ; Tregantle Fort ! ; *Keys, Fl.* iii. 185. Wall, Cremyll, 1871.
- d. III. South-west extremity of Cremill-point ; *Banks, Fl.* part 3 ; in plenty at Devil's Point. Devonport Trenches ; *id. et. ib.* Abundant about the eastern part of the lines, Devonport ; *Jacob, Fl.* part 10. Block-house Hill ; *Ravensh. Fl.* 50 : still about Devonport ; at the Hill it occurs at an elevation of about 200 feet. Two plants on the turf in front of a house in Devonshire Terrace, Plymouth, 1874 ; one still there, 1879. One in a waste spot at Tamerton Foliot, seemingly a recent introduction, 1874. In plenty on a bank at Holes Hole, Beer Ferrers.
- IV. About Plymstock ! ; *Banks, Fl.* part 3. Cattedown Quarries ! ; *Jacob, Fl.* part 10. Abundant about the cliffs of the Hoe and the slopes under the Citadel ; *Keys, Fl.* iii. 184 ; still in plenty, 1880. In many places on the limestone between the Plym estuary and Elburton. Dry bank in a field above the Tothill and Laira Road.
- V. Wembury ; on banks outside the churchyard, above Yealm Ferry, in plenty, and occurring elsewhere in the parish. Between Newton Ferrers and the Yealm Ferry. Noss.
- VI. In one place near Mothecombe, and also on the Kingston side of the Erme estuary.

Confined to the warmest portions of the area.

First record : *Banks*, 1830.

S. verticillata, L. Alien. Several plants in a pasture of one or two years' standing at Leigham, Egg Buckland, probably introduced with seeds of fodder plants, 1872 ; one luxuriant plant flowering among a crop of barley, 1876.

PRUNELLA, L.

531. *P. vulgaris*, L. Self-heal.

Native ; in pastures, meadows, waste spots, and on commons.

Very common. June to October. Area general.

To be seen close to Plymouth, and even on turf in the town, as in the churchyard of St. Andrew, as well as on our open commons. Liable to variation in the colour of the flowers : of a deep rose in Mount Edgcumbe Park (District II.), 1879 ; with white near Roborough, and light coloured near Double Water (III.) ; with the latter near Plymbridge and in Bickleigh Vale (IV.) ; at the last-named station growing intermixed with the ordinary purple-flowered plants. With flowers of a claret colour near Billacombe (IV.), and also near Bridgend (V.).

SCUTELLARIA, L.

532. *S. galericulata*, L. Common Skull-cap.

Native ; by rivers, streams, ditches, and other damp places.

Rare. July to September.

- c. I. Notter Valley, between Pillaton and Clapper Bridge, and also below Newton House.
 - II. Weir Head ; marsh near the bridge of rocks, Mount Edgecumbe ; *Banks, Fl.* part 8. Roadside between Antony and St. Johns.
 - d. III. By a little stream or drain at the side of Ford Lane, but rarely flowering, 1879.
 - IV. Above Cann Quarry ! ; *Rev. W. S. Hore, Jacob, Fl.* part 9. Coleridge, Egg Buckland.
 - V. Scrachleigh (Stretchley), Ermington ; *Keys, Fl.* iii. 188. In a sandy spot by the Yealm at Kitley. By the side of a damp hedge-bank near Cornwood.
 - VI. Banks of the Erme, near Ivybridge ; *Jacob, Fl.* part 9.
- First record : *Banks*, 1830.

533. *S. minor*, L. Lesser Skull-cap.

Native ; in peaty meadows, marshes, bogs, by streams, and in other damp spots. Rather common ; found mostly in the unenclosed moory districts. July to September.

- c. I. Viverdon Down ; a plant with purplish-white flowers, near others, September, 1873. Vale between St. Mellion and Pillaton. Cadsonbury.
- II. Weir Head ; *Banks, Fl.* part 8. In damp ground in a marsh near St. Johns village.

- d. III. Manadon Wood ; *Keys, Fl.* iii. 188. Looseleigh, and Warleigh Wood, Tamerton Foliot. Roborough Down. Plaster Down.
- IV. Road near the mill-house, Shaugh ; *Banks, Fl.* part 8. Stream beyond the Preventive Houses, Bovisand ; Cann Quarry ; near Shaugh Bridge ; Meavy ; *Jacob, Fl.* part 9. Common Wood, &c., Egg Buckland. Lee Moor. Crownhill Down. Dartmoor, near Tory Brook Head, with *Wahlenbergia hederacea*, at nearly 900 feet.
- V. Coombe Woods, Cornwood ; *Keys, Fl.* iii. 189. Westlake Green, Ermington. Near Dalamore. Enclosure below Hanger Down.
- VI. Ivybridge ! ; *Keys, ib.* Hanger Down.

Dr. Jacob in his *Flora* says of this, "more uncommon than the former" (*S. galericulata*) ; but as regards the neighbourhood of Plymouth the contrary is the fact.

First record : *Banks*, 1830.

MELITTIS, L.

534. M. *Melissophyllum*, L. *Bastard Balm.*

Native ; in woods, copses, and on bushy banks. Rather common. May, June.

- c. I. Between Trematon and Antony Passage ; *Keys, Fl.* iii. 190. Trevolland, and between Stoketon and Notter Bridge, St. Stephens. Between Seaton and Hessenford. Common in the neighbourhood of St. Germans. Tideford. Polbathick Wood. Georges Lane, Sheviock. Pillaton.
- II. "On a woody bank by a comb to the south of Saltash we first found *Lamium Melissæ folio* (*M. Melissophyllum*) growing in great plenty ;" July 5th, 1662 ; *Ray, Itineraries, in Select Remains of John Ray*, 292, 1760. Between Cotehele and St. Dominick ; *Lysons' Corn.* excix., 1814 (as *M. grandiflora*). Thanckes ; *Banks, Fl.* part 3. Wooded glen between Vernico and Pentillie ; *Jour. R. Inst. Corn.* iii. 50. Near Penlee Point ; *Keys, Fl.* iii. 190. Near Wilcove. Kingsmill, and between that and Hatt. Between Ashland and Harrowbarrow.
- d. III. Keyham, Mr. T. Bone ; Manadon ! ; Warleigh ; *Banks, Fl.* part 3. 'Keyham, 1842 :' specimen in *Herb. Easton* ; likely now extinct. Budshead. Woodlands Wood. Blaxton, and elsewhere in the parish of Tamerton Foliot. Tavy Valley. Between Maristow and Milton. Beer Ferrers.
- IV. Cann Wood ; W. A. *Bromfield*, sp. *N. Bot. Guide* ii. 552. Near Plymbridge ! ; at Leigham ; throughout Bickleigh Vale ! ; Saltram grounds ; Billacombe ! ; Fancy ; *Keys, Fl.* iii. 190. Bircham, Fursdon, &c., Egg Buckland.

- V. Yealmpton ; *Miss Harrison, Keys, ib.* Between Noss and Yealm Ferry. In a lane near Puslinch, and at Rounds Nest between that and Yealmpton village.
- VI. Between Kingston village and the Erme estuary. Pamflete. Holbeton.

One of the handsomest and most striking of our wild flowers, *M. grandiflora*, Sm., cannot be distinguished even as a variety. Near Fancy, in District iv., this ascends to 470 feet, with *Aquilegia* and *Viola hirta*. The former is often seen where the *Melittis* occurs.

MARRUBIUM, L.

- 535. M. vulgare, L.** *White Horehound.*

Alien or Denizen ; in waste places near houses. Very rare. July to September.

- c. I. A single plant by a wall bounding a garden at Trevolland, St. Stephens, 1871.
- d. V. One in a waste spot by the churchyard at Wembury, 1867 ; another by the side of the road between the church and Knighton village, below a cottage garden, 1873.
- VI. Erme Bridge, July, 1849 ; specimen in *Herb. Gould*.
- Still sometimes cultivated in cottage gardens.

BALLOTA, L.

- 536. B. nigra, L.** *Black Horehound.*

Native ; in waste places, on hedge-banks, and by roadsides, especially about houses. Very common. June to August, or later.

- c. I. Downderry. Trevolland, &c., St. Stephens. Tideford. Markwell. Pillaton.
- II. Rame ; Calstock ; *Keys, Fl.* iii. 194. Maker. Millbrook. Saltash ; seen here with purplish-white flowers, 1879.
- d. III. Stoke Damerel. Pennycross. St. Budeaux. Blaxton. Holes Hole.
- IV. Between Plymouth and Cattedown. Plymstock. Compton. Plympton.
- V. Wembury. Newton Ferrers. Bridgend ; a variety with white flowers here. Revelstoke. Spriddlestone, &c., Brixton. Elburton.
- VI. Mothecombe ; a slight variety with densely pubescent stems and foliage above Meadowfoot Cove. Carsewell. Holbeton. Modbury. Ermington.

Shows a peculiar partiality for growing about dwellings, flourishing by the dusty roadside and by the beaten path ; yet apparently not occurring as an escape from cultivation in these places, but because the conditions they afford suit it best.

STACHYS, L.

537. S. Betonica, Benth. *Wood Betony.*

Native ; in woods, on banks, and in hilly pastures and waste places. Very common. July to September. Area general.

An abundant species on the hedge-banks of the lanes, occurring in Furze Hill Lane, and elsewhere very near the town of Plymouth. Noted as seen with white flowers in all the Districts except vi. ; with light pinkish between Blunts and Clapper Bridge (i.) ; and with pink between Puslinch and Newton Ferrers village (v.).

538. S. palustris, L. *Marsh Woundwort.*

Native ; in damp places in fields and by roadsides, on the borders of garden-plots, and sometimes in cultivated lands. Common. July to September.

- c. I. Between Polbathick and Caracawn Cross. St. Stephens. Antony. Notter Valley.
- II. Between Cawsand and Penlee Point. Near Millbrook. Carkeel.
- d. III. Plymouth and Saltash Road. Near the Stonehouse Reservoir, at Pounds. Blaxton. Between Morwellham and Weir Head. Near Horrabridge.
- IV. Plymstock. Compton Gifford. In arable land at Common Wood. Staddiscombe. Plympton.
- V. Bridgend. Brixton. Yealmpton. Between Yealm Bridge and Flete. Near Beechwood.
- VI. Kingston. Between Gutsford Gate and Modbury.

Perhaps this might have been placed in the list of 'very common' species, but it is not nearly so common a plant as *S. sylvatica*.

539. S. ambigua, Sm. *S. sylvatici-palustris, Wirtz., E. B. ed. 3.*
'Hybrid between Hedge and Marsh Woundworts.'

Native ; by roadsides, and in waste spots on the borders of fields and garden-plots. Rather common. July to September.

- c. I. Hessenford. Damp spot between Polbathick and Caracawn Cross ; nearest *palustris*, and growing with it, 1873. Tideford. Between Clapper Bridge and Derniford. Cutmere. Minard Cross. Trematon. Near Moditon Mill. Quethiock.
- II. Near Millbrook, by the road to Kingsand. St. Johns. Antony. Near St. Stephens. Carkeel. Cotehele Quay.
- d. III. Pennycross, near the church. Between Weston Mills and Honicknowle. Close to Looseleigh toll-gate, near Tamerton Foliot. Border of a wood between Denham Bridge and Beer Alston. Between Beer Ferrers and Wear Quay. Near Horrabridge.
- IV. Saltram ; *Mr. T. Diment* and *Mr. C. Harper*, 1845, *Keys, Fl.* iii. 193. Heybrook, in the hollow just above the coast. Hooe.

In the lane leading from Round House Lane, Lipson, towards Little Saltram. Efford, by the footpath below Mr. Soltau's house. Colwell, &c., Egg Buckland. Roadside close to Bickleigh Bridge. By the roadside at Loughtor, Plympton St. Mary.

V. Near Newton Ferrers. Battisborough. Knighton. Efford, near Lynham. Brixton. Yealmpton. Cornwood.

VI. Mothecombe ; not much off *palustris*. Kingston. Between Ivybridge and Harford.

The above stations have reference rather to a series of forms than to one answering exactly to the *S. ambigua* of Smith. They graduate from a plant not much off *palustris* in the shape of the leaves, up to what is characteristic *ambigua*. The tint of the flowers in all of them tends towards that in those of *sylvatica*.

540. *S. sylvatica*, L. Hedge Woundwort.

Native ; on banks, in bushy and waste places. Very common.

June to October. Area general.

One of the commonest species of the *Labiateæ* ; occurring in Furze Hill Lane, Cemetery Road, and other places in the immediate vicinity of Plymouth.

541. *S. arvensis*, L. Corn Woundwort.

Native or Colonist ; in arable land among corn, turnips, and other crops, also in waste places about cultivated ground. Very common. Flowers the greater part of the year. Area general.

A generally-diffused weed, extending from fields on the coast to the arable lands of the semi-moorland parishes.

GALEOPSIS, L.

542. *G. Ladanum*, L. Red Hemp-Nettle.

Colonist ; in dry arable land and waste places. Very rare. July to September.

D. III. On a bank by the Cornwall Railway line, near the western shore of Weston Mills Lake ; more plentifully in a wheaten arish at Saltash Passage, September, 1863 ; in a quarry below this field, October, 1865. First noticed in 1860 ; not seen recently.

IV. On ballast-heaps in Cattedown Quarry : introduced of course ; but it seemed disposed to establish itself a few years since on the adjacent heaps of limestone rubble ; *Keys, Fl.* iii. 192. In one spot on a limestone rubble-heap, August, 1872.

The plant of District III. is rougher and coarser than the Cattedown one, and seems to be *G. canescens*, Schultz. (See *Bot. Ex. Club Rep.* 1866, 10.) Mr. Keys so names the one from Cattedown, but I would rather call that *genuina*, Boswell-Syme.

543. G. Tetrahit, L. *Common Hemp-nettle.*

Native ; in open spots in recently cleared woods and copses, also as a weed in and about arable land. Very common. July to September. Area general.

We have the two forms, *genuina* and *bifida*, growing in the area. At Walkhampton a plant with flowers white, except in retaining the coloured spots on the lower lip, September, 1874.

G. versicolor, Curt. Casual. A single plant in a field near Crabtree (District iv.), September, 1864.

LEONURUS, L.**544. L. Cardiaca, L.** *Motherwort.*

Denizen or Alien ; in waste spots and on banks near houses. Very rare. July to September.

- c. I. Three plants on Trevollard Green, St. Stephens, 1871 ; near an old mansion, with other Denizens in the neighbourhood ; one plant seen, 1878.
- II. [About Wilcove and Millbrook ; *Banks, Fl.* part 6. Near the farm called Tregnoc, about half-a-mile from Millbrook ; *Jacob, Fl.* part 9. Probably extinct.] In a farm-yard, Rame ; between Calstock and Gunnislake ; *Keys, Fl.* iii. 192 : many plants at the former station in 1871. There is a specimen thence in *Herb. Goulding*, collected in August, 1850.
- d. [III. Outlands ; *Banks, Fl.* part 6.]
[V. Brixton ; *Polwh. Hist. Devonsh.* i. 90, 1797.]

LAMIUM, L.**545. L. amplexicaule, L.** *Henbit Dead Nettle.*

Colonist ; in dry fields amongst turnips, corn, and other crops, and as a weed in garden ground. Rather rare, and decidedly local. March to October.

- c. I. A single plant in a waste spot whence manure had been taken, near Crafthole, May, 1875. Abundant in a field of mangold wurzel and turnips, between Antony House and the village ; all the flowers cleistogamous ; September, 1877.
- II. Gardens near Torpoint ; *Phyt. v. N.S.* 370. "A specimen in my herbarium collected at Torpoint, by Rev. W. S. Hore, May, 1843 ;" *Keys, Fl.* iii. 191, note. Waste spot at Carbeal, near Torpoint, 1875. Wilcove, 1868, 1880.
- d. III. Neighbourhood of St. Budeaux and King's Tamerton ; *Phyt. v. N.S.* 370 ; 1860, 1871, &c. In a piece of cultivated ground between Pennycomequick and Stoke Damerel, 1871. Three plants by the roadside near Hyde Park Terrace, Mutley, 1871.

In the path-field immediately to the north of Burleigh, Pennycross, 1878, &c. Field near Prospect.

IV. Bovisand ; *Holmes, Keys, Fl.* iii. 191. Mount Batten, as a weed in cultivated ground, May, 1874. In a plot of ground near Laira Bridge, 1866.

VI. In an arable field at Scotscombe, Kingston, July, 1876.

But for the situation of some of the stations in District III. this might be pronounced Submaritime.

546. *L. incisum*, Willd. Cut-leaved Dead Nettle.

Colonist ; in and about arable fields, &c. Very rare. Flowers the greater part of the year.

c. II. Rather sparingly at Carbeal, near Torpoint, 1875 ; in less quantity, 1878. About half-a-dozen plants on or by a hedge-bank of the first of the fields through which is the path from Trevol to St. Johns, March, 1872.

d. III. In a tillage field at Prospect, Pennycross, 1867, 1874, &c. Here it and *L. amplexicaule* generally appear with the crops year after year. Four or five plants in another field in the neighbourhood, 1872. In plenty in the field through which passes the path from Pounds to Pennycross Church, 1874, 1875. Two plants in the path-field immediately north of Burleigh, Pennycross, September, 1878.

IV. In a tillage field, Fursdon, Egg Buckland, 1876.

First record : *Briggs*, in *Jour. Bot.*, 1868.

547. *L. purpureum*, L. Red Dead Nettle.

Native or Colonist ; on banks, in cultivated fields, garden ground, and waste spots about arable land. Flowers nearly all the year. Area general.

One of the commonest weeds. I have noticed the variety *decipiens*, Sond., at Pennycross (District III.) and near Battisborough (v.). A plant with white spotless flowers on a bank by the Plymouth and Saltash Road, April, 1870. The leaves and calyces were of the light green tint that is usual when the flowers of a plant are abnormally white. Plants in all respects of the ordinary colours were growing on the same bank. Two with white flowers, also near others, on a bank between Budshead and Whitleigh, March, 1875.

548. *L. album*, L. White Dead Nettle.

Native ; on banks and in waste spots, mostly near houses. Common. March to October, or later.

c. I. Sheviock. Burraton Combe and Trevolland, St. Stephens. Tidesford. Wotton Cross, by a cottage. By Moor Cottage, near

- Trerule. Pelborder, near St. Mellion, close to a farm-house. Near Pillaton Mill.
- II. Between Cawsand and Penlee Point. St. Johns. Trevol. Merrifield. Saltash. Halton Quay. Calstock.
- d. III. Near Manadon, by the Devonport Road. Honicknowle. Burrington. King's Tamerton. Below Barn farm-house, near Bull Point. Knackersknowle. Lophill. Beer Alston, and near Holes Hole. Horrabridge. Walkhampton.
- IV. [Mutley Plain! ; Tothill! ; *Keys, S. D. Lit. Chron.* 206.] Cattdown. Pomphlet. Plymstock. Gabber, Wembury. Near Little Saltram. Crabtree. Between Compton village and Little Efford. Stoneybridge, &c., Egg Buckland. By the road to Hele, Bickleigh.
- V. Langdon, and near the Alms-houses, Wembury. Elburton. East Sherford, Brixton Torr, Winston, and Blackpool, Brixton. Yealmpton. Cornwood.
- VI. Modbury. Ermington. Caton. Ivybridge.

By no means the abundant and universally diffused species that it is in some parts of England. You may walk miles and not see a single plant of it, and the places where it does occur are usually spots or banks in the vicinity of houses. Humble Bees seem partial to its flowers.

549. L. Galeobdolon, Crantz. Yellow Archangel.

Native ; in woods, bushy places, and on shady hedge-banks. Rather rare, and very local. May, June.

- c. I. In one place on a hedge-bank between Landrake and Pillaton Mill.
- II. Near Callington ; *Jacob, Fl.* part 8 ; perhaps in District 1., or altogether beyond the area. By the stream at Danescombe, near Calstock, 1875.
- d. III. Maristow, on the Tavy ; *Banks, Fl.* part 8. On the banks of the Tavy, near Tavistock ; *Jacob, Fl.* part 8. Seen in plenty in certain places between Maristow and Tavistock. Above the Tamar, near the Morwell Rocks.
- V. Neighbourhood of Yealmpton ; *Phyt. v. N.S.* 370. In profusion in some of the woods of the Yealm Valley lying between Puslinch and Lee Mill Bridges, also occurring on many hedge-banks about Yealmpton and Brixton.
- VI. Wood near Ivybridge ; *Miss Sconce, Banks, Fl.* part 8. By the side of the river at Ivybridge ; *Jacob, Fl.* part 8. Lane leading to Cling Mill from the Kingston Road. Flete. Penquit. Near South Devon Slate Quarries.

This is quite absent from such extensive tracts that it falls into the list of 'rather rare' species, notwithstanding its abundance in certain places.

Near Harestone (District v.) I have seen many spikes of this bearing at the apex a curious terminal regularly-formed upright flower, with six segments, all similar to the central segment of the lower lip in the ordinary flower. This is enclosed in a six-toothed calyx. Occasionally I have also met with a terminal flower of intermediate character.

First record : *Banks*, 1830.

AJUGA, L.

550. A. reptans, L. Common Bugle.

Native ; in moist places by roadsides, on damp banks in pastures, and in open spots in woods. Very common. Part of April to June. Area general.

One of the most widely diffused of the *Labiatae*, to be seen on damp banks by roadside drains in the immediate vicinity of Plymouth, extending thence to Dartmoor. Found with white flowers in Districts i., iii., iv. and v. ; with light-coloured in ii., iii. ; with claret in i., iv. ; with both lilac and rose in iv. These variations seem in no way dependent on conditions of growth, as the plants producing flowers of an abnormal colour grow in numerous cases with others bearing blue.

TEUCRIUM, L.

551. T. Scorodonia, L. Wood Germander.

Native ; on bushy or rocky banks, about woods and copses, and on dry hedge-banks. Very common. July to September. Area general.

Very frequent on old hedge-banks in the lanes about Plymouth, and extending to the semi-moorland tracts.

It is sometimes used by country people for the preparation of a medicinal tea, and is said to have been formerly employed in some parts of Devon as a substitute for hops (see *Maton, Obs. on West. Counties*, i. 95.)

Humble Bees are very fond of gathering from its flowers.

T. Chamædrys, L. Alien. Near Pennycross Chapel : given to me by my lamented young friend and pupil, the late Mr. T. C. Bone, who fell a victim to the cholera, while engaged professionally in Ireland ; *Jacob, Fl. part 8.*

BORAGINACEÆ.

ECHIUM, Tournef.

552. E. vulgare, L. Common Viper's Bugloss.

Native ; in waste dry or stony places, on rocky banks, about old quarries, and in poor dry pastures. Rather rare and local. June to September.

- c. I. Trevolland slate quarries ; *Banks, Fl.* part 7. Near Polbathick ; *Keys, Fl.* iii. 119 : seen between that and Hessenford, 1873. By the Torpoint and Liskeard Road ; near Wacker, also near Trerule. Seaton. Field near Clapper Bridge, 1869.
- II. Hedges about Millbrook ; *Banks, Fl.* part 7. In the débris of a slate quarry, a short mile west of Torpoint ; *S. D. Lit. Chron.* 191 ; two plants with white flowers growing with others there, 1869. By Hay Lane, between Antony and Trevol, always sparingly.
- d. III. [Weston Mills ; first field leading thence to Pennycross ; *Banks, Fl.* part 7.] Blaxton. Between Lophill and Gnatham, Beer Ferrers. In plenty in waste ground near Tamar Quay at Holes Hole, but looking like an introduction, 1871.
- IV. Cattedown ; *Banks, ib.* Extinct ? [Hoe ; I have not noticed it for several years past ; *Keys, Fl.* iii. 119.] On limestone rubble near the Oreston Quarries, rather sparingly, 1871. About the quarry at Hay. Egg Buckland ; in a poor dry field at Common Wood, appearing year after year ; also a few plants in a sandy marsh at Rumpie, 1870. By the Dartmoor tramway, near Bickleigh.
- V. Roadside between Plymouth and Yealmpton, between four and five miles from Plymouth ; *S. D. Lit. Chron.* 191, 1846 ; still about Chittleburn, 1879. Hareston. On refuse from a quarry near Gorlofen, Brixton.
- VI. Field near Bigbury Bay, a little to the east of Lambside, 1875. A good example of a species of sparse distribution. At the places where it does occur, it for the most part does not extend widely.

First record : *Banks*, 1830.

Pulmonaria officinalis, L. Alien. In a shrubbery at Widey, near Plymouth ; *Keys, Fl.* iii. 120. Manadon (as *angustifolia*), in *Ravensh. Fl.* Doubtless the records have reference to one place, Widey and Manadon being only separated by Manadon Hill. Some years ago I noticed a *Pulmonaria* in a shrubbery at the back of Widey Lodge, growing in a situation that certainly did not entitle it to any mention in a list of native plants.

LITHOSPERMUM, *Tournef.*

553. *L. officinale*, L. *Common Gromwell.*

Native ; in bushy or rocky waste places and on banks. Rather rare and quite local, mostly on calcareous soils. May to July.

- c. I. Between St. Germans and Landrake, 1864 ; between Torpoint and Antony ; *Keys, Fl.* iii. 120 ; seen in the former locality near Tideford, and at the other a quarter of a mile from Antony village. Bank near Antony Passage.

- II. On banks close to Halton Quay.
- d. III. Near the Camel's Head Inn, Keyham ; *id. et. ib.* ; here on a steep 'cutting' by the Plymouth Road, between that and Keyham, and also in one place on the western side of Weston Mills Lake. Blaxton, on a bushy bank. One plant near the limekiln at Lophill, 1866.
- IV. Crabtree ! ; *Keys, S. D. Lit. Chron.* 324. Cattedown, 1872. A common plant on the limestone between the Plym estuary and Elburton. By the Dartmoor tramway, &c., at Shalaford, Egg Buckland. Between Plympton and Brixton.
- V. Wembury. Near Winstone and Fordbrook, &c., Brixton. Below a limestone quarry in the Yealm Vale, near Yealmpton. Yealm Bridge.
- VI. Motecombe. Saltercress, Kingston. Near Ermington, by the Plymouth Road.

Only occurs in warm, dry or sheltered places, and is not found at all in the semi-moorland parishes.

First record : *Keys*, 1846.

554. L. arvense, L. Corn Gromwell.

Casual or Colonist ; in arable fields, and casually by roadsides, &c. Rare. April to June, or later.

- c. II. Pentillie ; *Johns*, specimen in *Herb. R. Hort. Society of Cornwall* ; *Keys, Fl.* iii. 121. Three plants on the side of a hedge-bank between Hay farm-house and Antony village, April, 1871.
- d. III. Near Tamerton Foliot, 1862, and the previous year. Among vetches in the field through which is the path from Pounds to Pennycross Church, 1872.
- IV. [Hoe, 1845 ;] Plymstock ; *Hore, Keys, ib.* ; I saw it in a field near Plymstock many years ago. Field at Shalaford, 1861 ; in plenty with vetches in one at Leigham, Egg Buckland, 1872. Four plants in a field of fodder plants at Shaugh, 1870. One or two on a wall near Marsh Mill, 1879.

Seems to be mostly sown with vetches ; and hardly entitled to rank as a Colonist.

MYOSOTIS, Dill.

555. M. cæspitosa, Schultz. Tufted Water Forget-me-not.

Native ; on mud in ditches and drains, in damp meadows, and on the margin of ponds, pools, and rills. Rather common. Part of May to September.

- c. I. In the Seaton Valley, between Hessenford and the coast. Marsh below Killa Lane, Tideford.
- II. Georges Lane, Sheviock. Calloget, Landulph.
- d. III. Kinterbury. Warleigh Marsh. Between Tamerton Foliot and Roborough. Blaxton.

- IV. Chelson Meadow; *Keys, S. D. Lit. Chron.* 324, and *Fl.* iii. 122.
 Laira. Marsh, Shalaford. Between Saltram and Elburton.
 Between Elburton and Plympton. Near Plympton, by the road to Brixton.
- V. Meadow between Lambside and Preston farm-house. Near Bridgend. Yealm Valley, between Kitley and Lee Mill Bridge.
 Near Chittleburn. Blackpool. Near Collaford. Westlake.
- VI. Strood. Gutsford Bridge. Flete.

I think this plant to be of biennial, not perennial, duration.
 First record: *Keys*, 1846.

556. *M. repens*, Don. Creeping Water Forget-me-not.

- Native; in watery and marshy places, in bogs, and by streams.
 Common. June to September.
- c. I. Near Shillingham and Trematon, St. Stephens. Viverdon Down.
 II. Between Torpoint and St. Johns. Polbathick. Landrake. Weir Head.
- d. III. Manadon Wood; Keyham; *Keys, S. D. Lit. Chron.* 324. By the Devonport leat channel at Pennycross. Between Weston Mills and Coombes farm-house. Between Burrington and Manadon. Blaxton.
- IV. Bovisand, *Banker*; Staddon Heights; Leigham; Shaugh; *Keys, ib.* and *Fl.* iii. 121, 22. Derriford, &c., Egg Buckland. Newnham. Bickleigh. Wigvor Down.
- V. Green at Westlake. By Kitley Brook, above Ford Cottages. Enclosure below Hanger Down, with pinkish flowers, 1879. Near Cholwichtown. Cornwood, and between that and Ivybridge. In a bog near the source of Broadall Brook, Dartmoor.
- VI. Between Holbeton and Orcherton. Modbury. Ivybridge.

So far as I have seen this is the only Water Forget-me-not of the area, except *cæspitosa*. Until comparatively recently I believed many plants growing about Plymouth to be *M. palustris*, but on being submitted to careful examination, as opportunities occur, they prove one after another to be *M. repens*. Some years ago I marked *palustris* as belonging to East Cornwall and South Devon in a *London Catalogue* checked for Watson, but as I now believe did so in error, through having mistaken certain examples of the supposed less common *repens* for it. There are several local stations given under *palustris* in Keys's *Flora*, but I do not venture to quote them, as they probably belong to *repens*, and consequently I am unable to give *palustris* a place in the Plymouth list.

557. *M. arvensis*, Hoffm. Field Forget-me-not.

- Native; on hedge-banks, in open places in woods, and as a weed in arable land. Very common. April to September. Area general.

The commonest species of the genus. The var. *b. umbrosa* occurs in woods and on shady hedge-banks.

558. M. collina, Hoffm. *Dwarf Forget-me-not.*

Native ; on dry stony or rocky banks and on walls. Common, though somewhat local. April to June.

- c. I. Crafthole. Seaton. St. Stephens ; in various places.
- II. Torpoint ; *Keys, S. D. Lit. Chron.* 206 ; Wear, near Millbrook ; Rame ; Whitsand Bay ; *Hore, id., Fl.* iii. 123. A large patch with light blue, and one plant with bluish-white, flowers on a wall between Cawsand and Rame Church, 1876. Tregantle. Penhale. Combe, near Saltash.
- d. III. Between Weston Mills and King's Tamerton. Hartley Hill. Blaxton, and between that and Lophill.
- IV. Between Gascoyne Place and Lipson ; *Keys, S. D. Lit. Chron.* 206 ; Turnchapel ; Staddon Heights ! ; *id., Fl.* iii. 123. Between Plymouth and Cattedown. Plymstock.
- V. Wembury. Elburton.
- VI. Ringmore. Wall-top near Sequers Bridge.

This appears to be absent from all the colder tracts. It is hardly more than submaritime in distribution.

The first record of this for Devon and Cornwall seems to have been the notice by the *Rev. W. S. Hore*, in *Phyt.* i. 162, "Very common on stone walls near the sea in April and May." The paper was read at the Meeting of the British Association in 1841, and appeared in the *Phytologist* the succeeding year.

559. M. versicolor, Lehm. *Yellow and Blue Forget-me-not.*

Native ; on dry banks, in turf waste places, and in meadows.

Very common. April, May. Area general.

Grows on hedge-banks very near the town of Plymouth, occurs over all the enclosed country and in some of the wilder tracts. A slight variety with light flowers and foliage is occasionally found with the typical plant. I have seen it at St. Germans Beacon (District i.) ; at Mount Batten (iv.), &c. A plant with white flowers near Saltash, 1869.

ANCHUSA, L.

560. A. sempervirens, L. *Evergreen Alkanet.*

Denizen, possibly Native in a few places ; on banks and in bushy or stony waste spots about villages, houses, and gardens.

Rather common. From latter part of March or April to June, or later.

- c. I. Between Crafthole and Looe ; *Jones, Tour*, 16 ; seen at Hessenford, and between it and the coast. Caracawn. A plant or two

between Polscove and Sheviock. Tideford Cross. About St. Stephens village and at Burraton Combe. Below an orchard near Notter Bridge. Pillaton. Trevolland.

- II. Trevol ; *Keys, Fl.* iii. 118. Kingsand. Pill, near Saltash, near 'escaped' species. Botus Fleming, with *Geranium striatum*. Harewood, and outside the churchyard, Calstock, also between the village and Weir Head, with *Chelidonium* and *Aegopodium*. Cotehele. Halton, near the quay.
- d. III. Near Mutley ; *Keys, S. D. Lit. Chron.* 192. Pounds and Burleigh ! ; *id. Fl.* iii. 117. King's Tamerton. Tamerton Foliot. Maristow. In the Tavy Valley, and elsewhere about Buckland Abbey. Milton. Hedge-bank by a cherry-orchard, Beer Ferrers. Horrabridge. Near a house at the head of the hill above Newbridge.
- IV. Truly wild in a retired lane, on a bank amongst weeds, a few miles from Plymouth ; *W. A. Bromfield, MS. N. Bot. Guide*, ii. 551, 1837 : possibly this refers to Efford Lane, where it has been long known to grow. Crabtree ; Thornbury ; Egg Buckland ; *Phyt.* v. N.S. 371. Oreston. Elburton, and near Hay. Butlass. Plympton St. Mary; close to the churchyard. Between Ridgway and Colebrook. Near Newnham, and in a wood near Elfordleigh lodge. Hayle, Bickleigh.
- V. Langdon, associated with *Vinca minor* and *Galanthus*. West Wembury. Spriddlestone, and at Brixton village. Wilberton. Lynham. Lutton and Oundle, Cornwood.
- VI. Ivybridge ; *Keys, Fl.* iii. 117 ; seen in that neighbourhood. Near an old house between Ermington and Ugborough, with *Vinca minor*. Modbury churchyard.

Notwithstanding the opinion of the late Dr. Bromfield, quoted above from *New Botanist's Guide*, and which may be seen repeated by him in his *Flora Vectensis*; as also that of the Rev. J. S. Tozer, in Hooker's *British Flora*, ed. 2, "Certainly wild in Devon and Cornwall," I regard this as rather a Denizen or Alien than a Native species ; for it is almost always near houses that it is to be seen, very often with plants that have certainly been derived from gardens. I have found the larva of *Arctia villica*, which is a common insect about Plymouth, on this plant.

First record : *Jones*, 1820.

BORAGO, *Tournef.*

561. *B. officinalis*, L. *Common Borage*.

Alien or Casual ; in waste spots, fields, &c. Very rare. May to October.

- c. I. Between Crafthole and Looe ; *Jones, Tour*, 16 ; probably at Port Wrinkle ; eight or nine plants there on a sea-cliff and two or

three on a hedge-bank by a garden, May, 1871 ; still in plenty outside a garden, 1877.

- II. Near Saltash ; *Jacob, Keys, Fl.* iii. 117.
- d. III. Cremil Point ; and about Newbridge ; *Banks, Fl.* part 5. Banks of the river near Tavistock ; *Mr. Knappe, With. Brit. Plants* ii. 285 ed. 7. A single plant at Pounds, Pennycross, 1866. One by Maristow lawn, 1868 ; some plants there the succeeding year. A few in a field at Ford, very near houses, 1873.
- IV. Cattedown Quarries ; *Banks, Fl.* part 5. Crabtree ; *Keys, Fl.* iii. 116. One plant in a field below Efford, 1873. More than a dozen on or about rubbish heaps at Deadman's Bay, near Cattedown, 1873.

Perhaps only a Casual, except at Port Wrinkle. Withering's Tavistock station may be beyond the area.

First record : *Jones*, 1820.

SYMPHYTUM, *Tournef.*

562. *S. officinale*, *L.* Common Comfrey.

Denizen ; perhaps Native in a few places ; by streams, in fields and waste spots. Rather rare. May to September.

- c. I. Notter Bridge, 1864 ; *Keys, Fl.* iii. 119. Sheviock and Tre-wickle, near houses. Hedge-bank near an orchard between Penters Cross and St. Mellion ; between the latter place and St. Dominick var. *patens* on the border of a field. Near a farm-house between the Saltash and Callington Road and Pillaton. Near some cottages between Clapper Bridge and Derniford. Minard Cross, near houses. Rosevale, near Trerule.
- II. Banks of the Tamar, near the Weir Head ! ; *Rev. Dr. Jacob, Banks, Fl.* part 2.
- d. III. [Waste places, Gunwharf, *Miss Atkinson* ; between Stoke and Milehouse ; *id. et. ib.*] On the border of an orchard between Knackersknowle and Tamerton Foliot. Edge of Maristow lawn, above the Tavy.
- IV. Knackersknowle ; *Keys, S. D. Lit. Chron.* 206 ; Roborough ; Saltram ; *id. Fl.* iii. 118. Seen near Saltram, between Chelson Meadow and Pomphlet farm-house. Stream at Shalaford, below the cottages.
- V. Vale near Wembury Church, by the road to Langdon.
- VI. Under a wall close to the town of Modbury, by the Kingsbridge Road ; with light green foliage and white flowers.

This has still some repute amongst the country folk for efficacy in pectoral complaints, and was, I believe, formerly used in veterinary practice. I have seen it in cultivation.

First record : *Banks*, 1830.

CYNOGLOSSUM, *Tournef.*

- 563. C. officinale, L.** *Common Hound's-tongue.*

Denizen ; in waste places by roadsides. Very rare. June to August, or later.

- c. I. Two flowering and five small plants under a hedge by Trewickle Lane, near Port Wrinkle, Sheviock, 1875.
- [II. Near Mount Edgecumbe ; many specimens in *Herb. Gould.*, July, 1852, probably collected by *J. Bunker.*]
- d. [V. Wembury, 1851 ; *Keys, Fl.* iii. 116 ; probably now extinct ; for I have failed to find it.]

Echinospermum Lappula, Swartz. Casual. A single plant near Wacker Mill, by the Torpoint and Liskeard turnpike road, August, 1873. Probably brought with corn.

PINGUICULACEÆ.

- 564. P. lusitanica, L.** *Pale Butterwort.*

Native ; in peaty bogs, swampy and damp places on moors and commons. Locally common. June to September.

- c. I. Viverdon Down. Pillaton Down.
- II. Bogs below Hingston Down, near Harrowbarrow.
- d. III. Near the Virtuous Lady Mine, and in a bog between that and Denham Bridge. Small bog in a pasture near Tamar House, 1868.
- IV. Dartmoor ! ; *Fl. Dev.*; near Shaugh Bridge. Near Wheal Sidney Mine ; *Keys, Fl.* iii. 196. Bog on Derriford estate, Egg Buckland. Very sparingly in a boggy spot in a meadow below Shaugh Wood, 1877. Lee Moor. Sheepstor. Wigvor Down.
- V. Near Cornwood. Bog in an enclosure below Hanger Down.
- VI. Ivybridge ! ; *Stew. Fl. Torq.* 102. Hanger. In bogs on Dartmoor, above Harford Bridge.

One of the common and characteristic species of the bogs of the peaty and moorland tracts.

PRIMULACEÆ.

PRIMULA, *L.*

- 565. P. vulgaris, Huds.** *Common Primrose.*

Native ; on hedge-banks, in woods and copses. Very common. March to early part of May. Area general.

Extirpated from the lanes immediately around the town of Plymouth, through persons digging up the roots for sale, or to plant in gardens.

Through these objectionable practices a gradually increasing extent of country lying around the town is unfortunately being despoiled of many of its natural beauties in the way of ferns and wild flowers. The Primrose shuns the full exposure of the coast, and avoids the light arenaceous soils. Calcareous ones, when sufficiently damp, seem to suit it well, and it abounds on the slates and shales. White, purple, and liver-coloured varieties are often met with. I have seen the first in every District, and in a single wood in District v. found several dozens in 1876. Purple or liver-coloured flowered plants I have also noticed in every District, once so many as twenty in one locality. The liver-coloured and white-flowered are both given as Cornish in Withering's *British Plants* (ii. 288 ed. 7).

Darwin has asserted (see *Jour. Lin. Soc. Botany*, x. 437–54) that the Primrose is never visited by the larger humble bees, and only rarely by smaller kinds, and that consequently its fertilization depends almost exclusively on moths. In this neighbourhood, however, it is visited by many insects besides moths. The bee *Anthophora acervorum* frequents its flowers, and a very small one, *Andrena Gwynana*, appears to get a vast quantity of pollen from them. The Brimstone Butterfly (*Gonepteryx Rhamni*) also visits them, and one of the *Dipteræ*, *Bombylius medius*, seems to obtain a great deal of its food from them. On one day in April, 1875, I noticed no less than four humble bees, one a very large one, visiting Primroses (see *Jour. Bot.* viii. 190).

The Rev. H. N. Ellacombe says, in his entertaining *Plant-Lore and Garden-Craft of Shakespeare*, “I am not aware that Primroses are of any use in medicine or cookery, yet Tusser names the Primrose among ‘seeds and herbs for the kitchen;’ and Lyte says, ‘the Cowslips, Primroses, and Oxlips are now used dayly amongst other pot herbes, but in physicke there is no great account made of them.’” I quote this to observe that the flowers of the Primrose were, until recently at least, used in the neighbourhood of Plymouth for making a dish known as ‘Primrose pudding.’ I well remember the pleasure it afforded my brother and myself when children to gather them for this purpose. To the best of my recollection the pudding when brought to table had much the appearance of a boiled batter pudding, the flowers being compressed into a solid roundish mass, made up with eggs and other ingredients. The taste was insipid.

Hybrid. *P. officinali-vulgaris*, Boswell-Syme, *Eng. Bot.* ed. 3.

vars. c. *intermedia* (and b. *caulescens*?), Lon. Cat. ‘Oxlip.’

d. III. Many plants on hedge-banks about Maristow, where *P. officinalis* and *P. vulgaris* both occur. Farming operations have to some extent confined the cowslip to the borders of the fields and contiguous banks, where the two species are brought into proximity with each other, and here we find the hybrid pro-

duced. Some examples mostly resemble one parent, others the other, but all that I have noticed have had at least some of the flowers raised on a scape, and generally all have been so arranged. About the borders of a pasture between Lophill and Denham Bridge, eight plants, 1868; several on a hedge-bank, 1875. About half-a-dozen in an orchard near Maristow, with the two parents, 1875.

566. *P. officinalis*, L. Cowslip.

Native; in old pastures, meadows, and on banks. Rare and very local. April, May.

- c. II. Near Cotehele, plentifully; *Polwh. Hist. Corn.* iv. 125, note, ed. 2. In a field at Maker, 1845, sparingly and possibly spontaneous; Mount Edgecumbe (in the grounds); *Keys, Fl.* iii. 198. In plenty and all over a large pasture adjoining the grounds of a house near Cargreen, by the road from Penters Cross to Landulph; some plants with purplish flowers, 1873.
- d. III. Maristow; *Gould. and Harper, S. D. Lit. Chron.* 131. Specimen in *Herb. Plym. Inst., Rev. W. S. Hore*, 1836. Pasture near the Knackersknowle and Tamerton Road, very sparingly; *Phyt.* v. N.S. 370. Budshead, near the mill (St. Budeaux); *Holmes, Keys, Fl.* iii. 197. It occurs in profusion in Maristow lawn, and is found also at Postham, and in several places lying between Maristow and the Plymouth and Tavistock Road, from the fourth milestone from Plymouth to Roborough Down. Between Maristow and Milton. In pastures in the Tavy Valley, between Lophill and Denham Bridge.
- IV. Leigham, Egg Buckland; *Phyt.* v. N. S. 370. [Field near Compton, where some ten years since it was plentiful, but now rare if not extinct; *Keys, Fl.* iii. 197.]
- V. Cornwood, field adjoining the grounds of Lady Rogers (Blachford); *id. et. ib.*

This may be derived from ancient cultivation in Districts IV. and V., but certainly must be considered indigenous in III.; and probably it is likewise so in II.

First record: *Polwhele*, 1816; earlier if the extract be also contained in ed. 1, which I have not seen.

LYSIMACHIA, L.

567. *L. vulgaris*, L. Common Loosestrife.

Native; on river banks and in other damp spots. Very rare. August, September.

- c. I. Sparingly on both banks of the river, above Notter Bridge, 1864; also a few plants between Clapper Bridge and Pillaton, 1869.

- II. Banks of the Tamar, near the Weir Head ; *Jacob*, *Fl.* part 10 ; very probably extinct.
 D. III. By a pond at Warleigh ; most probably planted, 1870.
 First record : *Jacob*, 1836.

568. L. Nummularia, L. Creeping Jenny.

- Alien, probably ; occurring only where it has been planted or has escaped from gardens. Very rare. July, August.
 D. III. In a damp piece of ground by the side of the road between Whitleigh House and the abandoned mine ; doubtless derived from the grounds at Whitleigh.
 IV. [Bickleigh Vale, *Hore* ; I have never been able to find it in this station ; *Keys*, *Fl.* iii. 199.] Bank in a lane at Underwood, evidently derived from a garden close at hand.
 V. Near Brixton, on the right-hand side of the road towards Newton Ferrers, after passing the bridge ; *Balkwill* ; *ib.* This station is at Puslinch, where the plant grows on a bank outside the lawn, and is likely to have been introduced.

569. L. nemorum, L. Yellow Pimpernel.

- Native ; in damp woods and copses, on banks by streams, and in other moist or shady spots. Common. May to November.
 c. I. Near Latchbrook. Between Caracawn Cross and Hessenford. Tideford. Antony. Landrake. St. Mellion.
 II. Cotehele. Gunnislake.
 D. III. Warleigh Wood, &c., Tamerton Foliot. Between Maristow and Milton. Near Denham Bridge. Beer Ferrers.
 IV. Fursdon, Common Wood, &c., Egg Buckland. Fancy Wood. Newnham. Bickleigh.
 V. Puslinch. Combgate. Cornwood.
 VI. Kingston. Flete. Between Ermington and Ivybridge.

ANAGALLIS, Tournef.

570. A. arvensis, L. Scarlet Pimpernel.

Native or Colonist ; in cultivated land, by roadsides, in waste places about fields, and on banks. Very common. May to November. Area general.

Found as a garden weed in the town of Plymouth. Besides occurring in cultivated land, it grows also on sandy shores and coast cliffs, so may be truly indigenous, and not a Colonist that appeared with the cultivation of the ground. Liable to vary in the colour of its flowers. In addition to the blue-flowered variety I have seen the following : with flowers of a salmon colour, intermixed with others, below Tregantle Fort (District II.) ; one with flesh-coloured, close to another, at St. Budeaux (III) ; with purple flowers, again with others, at Shalaford (IV.).

571. **A. cærulea, Sm.** *Blue Pimpernel.*

Native or Colonist ; in fields, &c. Very rare.

- c. II. Landulph, *Rev. Mr. Bree*; in a corn-field about a mile west of Lugger's Cave, *Rev. Dr. Jacob, Banks, Fl.* part 5. Two fields beyond Lugger's Cave, Whitsand Bay; *Jacob, Fl.* part 12.
- d. IV. One plant by the side of the footpath between Longbridge and Marsh Mills, September, 1871.
- V. A single plant, with the type, in an oat-field by the path from Newton Ferrers to Yealm Ferry; petals ciliated, and looking altogether, except in the colour of the flowers, like the others, July, 1878.
- VI. One in a stubble-field between Kingston and Ringmore, with the common plant, August, 1871.

Whether there be a blue-flowered species of pimpernel or not, I believe the plants that I have found in this neighbourhood, with the exception perhaps of the one in District iv., to have belonged only to a variety of the common pimpernel. As the plant of District iv. grew very near Marsh Mills, where I have met with several introduced species, the seed was very probably brought with corn. To fall in with the species arrangement of the *London Catalogue*, I have, however, thought it best to attach a number to *A. cærulea*, especially as the records of Mr. Banks and Dr. Jacob are given in addition to my own notes.

First record : *Banks*, 1830.

572. **A. tenella, L.** *Bog Pimpernel.*

Native ; in bogs, on the banks of streams, by rills, and in damp peaty meadows. Rather common. June to August.

- c. I. Between Seaton and Hessenford. Tideford. St. Mellion. Pillaton Down. Near Newbridge, in the Notter Valley.
- II. Meadow opposite Morwell Rock, *Banks, Fl.* part 5. Whitsand Bay; *Keys, Fl.* iii. 200. In damp ground in a rough pasture near St. Johns village, and by a pool in a field between that and Torpoint. Near Hatt. Near Harrowbarrow.
- d. III. Roborough Down; *Phyt.* v. N.S. 355. Lane between Budshead and Whitleigh. Warleigh. Near Looseleigh. Field near Tamar House, and near the Calstock Ferry, Beer Ferrers.
- IV. About Meavy, Bickleigh, and Shaugh; Fancy Wood; *Banks, Fl.* part 5. Dartmoor; *Keys, Fl.* iii. 200; near the source of Torey Brook it ascends to nearly 900 feet. Derriford, Fursdon, Common Wood, &c., Egg Buckland.
- V. Wembury; near Cornwood; *id. et. ib.* Seen at Spriddlestone, below the Wembury Road. Revelstoke, on the sea-bank. On the green at Westlake, Ermington.

VI. Ivybridge ; *Stew. Fl. Torq.* 104. Vale between Kingston village and Bigbury Bay. Erme Valley.

First record : *Banks*, 1830.

CENTUNCULUS, L.

573. C. minimus, L. Bastard Pimpernel.

Native ; in damp sandy or muddy spots on commons, in clayey fields and pastures, and by roadsides. Rather rare. July to October.

- c. I. In waste turf places by the Saltash and Callington Road, near Carkeel, 1875. Elevated turf spot close to Notter farm-house, 1875. Sparingly by the road between Moditon Mill and Rouse farm-house, 1875. In the vale of the tributary of the Notter, between St. Mellion and Pillaton, also seen by the road to St. Mellion, 1869, 1875. Near Clapper Bridge, about cart-ruts in a road, 1870. Viverdon Down. Pillaton Down.
- II. Damp turf spot between St. Johns and Millbrook, 1866 ; field near Millbrook, 1877. Between Torpoint and St. Johns ; in different spots and at various times ; at one in the hollows formed by the hoofs of cattle in a damp field, at another extending as a weed amongst a crop of wheat from the side of a pool. On the damp border of a barley-field lying between the last station and Antony village, 1875. In a rough clayey field near Hatt. In abundance in a peaty enclosure from Hingston Down, 1879.
- d. III. Roborough Down ; *Phyt.* vi. N.S. 354. In a meadow by the stream running from Roborough Down to Blaxton, 1871.
- IV. In damp but shallow soil, probably washed at times by the sea, between Staddon Point and Wembury ; probably hundreds of plants, but all growing within the compass of a square yard, June, 1865. Damp sides of the road from Elburton to Plympton, 1871. On Crownhill Down, near Newnham Park. Bushy meadow between Bickleigh and Roborough Down, and on the Down. In the vale of the Mew, between Meavy and Hoo Meavy.
- V. In plenty in a clayey meadow by the turnpike road, between Lee Mill Bridge and Cadleigh, 1879. Very sparingly in damp ground near the bridge above Dalmore, 1869. In considerable quantity in an enclosure below Hanger Down, 1879. Very sparingly on the Green at Westlake, 1879.

There is no record of this for District vi., but it is almost certain to occur within it, especially as the station last named under v. is only just beyond its western border. *Centunculus* ascends to 700 feet by Hingston Down, in District ii. Probably from its small size it is often overlooked,

and so has been considered rarer than it really is. Notwithstanding its many stations in the area, it had never been noticed here until I discovered it in 1860, on Roborough Down.

GLAUX, Tournef.

574. G. maritima, L. Black Saltwort.

Native ; on muddy banks by salt water inlets and tidal rivers, in salt marshes, and on damp ground by the coast. Very common. May, June, or later. Area maritime.

- c. I. By Forder Lake. By the tidal waters between Sheviock and Polbathick.
- II. By Whitsand Bay. Millbrook, St. Johns. Saltash. Kingsmill. Cotehele.
- d. III. By Stonehouse Mill Pond, below Deadlake, 1874. Kinterbury. Tamerton Foliot. Lophill.
- IV. Plymouth ; *Fl. Dev.* 43. In various places by the waters of the Plym estuary.
- V. Shore below Revelstoke Church. On a wall at the end of the creek at Bridgend. By the tidal Yealm, below South Farm.
- VI. By Bigbury Bay, below Ringmore. About the waters of the Erme estuary.

First record : *Jones and Kingston*, 1829.

SAMOLUS, Tournef.

575. S. Valerandi, L. Brook-weed.

Native ; on the sides of damp or muddy river banks, in marshes near salt or brackish water, and about springs on the coast. Rather common. June to September.

- c. I. St. Germans Hut ; *Keys, Fl.* iii. 202. Marsh at Denabole. Near Wacker. By Wivelscombe Lake. By Sconner Lake. Polbathick.
- II. Moist rocks near Rame ; *Jacob, Fl.* part 5 ; seen in that neighbourhood, 1875. St. Johns. Kingsmill.
- d. III. Keyham ; Lophill ; *Keys, Fl.* iii. 201. Marshy spot by Kinterbury Creek, in plenty, 1876. Blaxton. Tamerton Foliot.
- IV. Cave near Bovisand ; *Frean* ; *id. et. ib.* By Hay Brook, close to the coast. By the Plym, a little above Longbridge, at a spot within tidal influence.
- V. Moist rocks near Wembury ; *Jacob, Fl.* part 5 ; seen near the church. Revelstoke ; on the coast near Netton and Worsewell.
- VI. In a salt marsh by the tidal inlet from the Erme, below Cling Mill, 1876.

Quite submaritime in distribution. Keys gives 'Roborough Down' among the stations for this as on my authority. Of course he is in error in so doing.

First record : *Jacob*, 1835.

PLUMBAGINACEÆ.

ARMERIA, Willd.

- 576. A. maritima, Willd.** *Sea Pink.*

Native ; on rocks, cliffs, and turf banks ; also by salt water inlets and tidal rivers. Very common. May to July. Area maritime.

One of the commonest species on the coast and about the river estuaries. On the mud banks of the latter sometimes very small, with almost sessile heads of only a few flowers. A variety with white ones seen at Mount Batten (District iv.) and by Bigbury Bay, below Kingston (vi.). The common plant occurs under the Hoe.

STATICE, L.

- 577. S. binervosa, G. E. Sm.**

a. occidentalis, Lloyd. *Lesser Sea Lavender.*

Native ; in damp soil on a cliff by the coast. Very rare. July, August.

- c. I. On the cliffs near Crafthole ; *Jones, Tour*, 16 (as *S. Limonium*). Rocks and sandy cliffs, one mile west of Lugger's Cave, *Rev. Dr. Jacob, Banks, Fl.* part 5 (as *S. spathulata*). Occurs in somewhat small quantity, extending over an inconsiderable portion of a low damp cliff by Whitsand Bay. The two records quoted have doubtless reference to one and the same spot there.

First record : *Jones*, 1820.

S. Limonium. Near Bovisand, *Mr. Radley* ; *Banks, Fl.* part 5. Error, doubtless.

PLANTAGINACEÆ.

PLANTAGO, L.

- 578. P. major, L.** *Greater Plantain.*

Native ; in waste places, by paths, roadsides, in pastures and fields. Very common. June to September. Area general.

Often seen on the turf of small garden-plots in the town of Plymouth : some plants on top of a wall in Mill Street, 1880.

- 579. P. media, L.** *Honey Plantain.*

Native or Colonist ; in pastures and fields. Very rare. June to September.

- c. II. In plenty in a pasture adjoining Albert Terrace, Torpoint, 1871. Sparingly in a field at St. Johns, 1868 ; still there, 1873.

- d. III. Ham ; *Rev. C. T. Collins, Banks, Fl.* part 7 : probably planted.
 A few plants in a field at Crownhill, Knackersknowle, 1875 ;
 likely to have been sown with grass seeds a few years previous.
- IV. In an old pasture on limestone at Cattedown ; known there for
 many years past. Four plants in a field at Goosewell, Egg
 Buckland.
- V. In considerable quantity in the lawn of Wembury House, 1873 ;
 still there, 1878.

On two or three occasions I have known this to appear singly or in very small numbers on the turf of gardens in Plymouth. Doubtless here it has always been introduced with grass seeds, or in some other way. It may be indigenous at Cattedown, possibly also in Districts II. and V. In Keys's *Flora* I am erroneously stated to have given Roborough Down as a station for this species.

580. *P. lanceolata*, L. Common Rib-grass; 'Hard Head.'

Native ; on grassy banks and commons, in pastures and fodder fields. Very common. April to September. Area general.

Grows on the turf of some Plymouth gardens, and in the churchyard of Charles, as well as on Dartmoor. Several plants have been known for some years past on top of the wall bounding the grounds of the Naval Hospital, at Stonehouse, on the south. The variety *Timbali* has been noticed between Mutley and Pounds ; there probably as an introduction. It, however, also occurs on a mass of rock at the eastern end of Whitsand Bay, and on a cliff at Port Wrinkle what looks an intermediate form appears, with a perennial tufted rootstock and perfectly glabrous leaves, but with spikes lacking the silvery white appearance of those of *Timbali*. Sometimes *P. lanceolata* is found bearing compound spikes. Banks speaks of "a variety" occurring at Cremil Point and Whitsands "with black globular heads of flowers upon slender, rounded scapes, and short leaves ;" of another, "near the sea about Keyham," in which the scape "elevates a tuft of many proper leaves, from among which proceed several naked stalks, each bearing a short terminal spike of flowers." A plant variegated by having the edges of the leaves of a light yellow in a field at Newbridge (III.), 1879.

581. *P. maritima*, L. Sea Plantain.

Native ; on damp rocks and in muddy places by salt or brackish waters. Common. May to September.

- c. I. Near Wacker Mill. Polbathick. Tideford. By Forder Lake.
- II. Between Torpoint and St. Johns ; *Keys, Fl.* iii. 204. Mount Edgecumbe. By Millbrook Lake. Cotehele.
- d. III. By Weston Mills Lake. Kinterbury Creek. Tamerton Creek. Blaxton. Near Holes Hole. By the Tavy, near Beer Ferrers.

IV. Hoe and Staddon Cliffs ; *Keys, S. D. Lit. Chron.* 351, and *Fl.* iii. 204 ; on a cliff below the Hoe, 1879. On the coast between Bovisand and Hey Brook. By the waters of the Plym estuary, at Cattedown, Saltram, &c.

V. Wembury. Revelstoke. Newton Ferrers. By Coffleet Lake.

VI. Motheconibe. By the Erme at Efford, and near Cling Mill.

This and the next species appear in Banks's *Plymouth and Devonport Flora*, but without any special stations for either.

582. *P. Coronopus, L.* *Buck's-horn Plantain.*

Native ; about cliffs, and in waste or turf places by the coast, and near tidal waters ; also in elevated dry waste spots and on commons in inland situations. Common. May to October.

- c. I. On the coast and by the tidal waters. Trevolland. In a waste turf spot close to Notter farm-house. In an elevated pasture between Pillaton village and Clapper Bridge.
- II. Penhale, near St. Johns. Saltash, by the road to Callington. Tinnel Green. Cotehele.
- d. III. By Stonehouse Mill Pond, below Deadlake, 1874. Waste turf place, King's Tamerton. Roborough Down, near the sixth milestone from Plymouth.
- IV. Hoe ; under the Citadel ; Cattedown ; *Keys, Fl.* iii. 203 : seen on the Hoe, 1880. On slaty refuse at Cann Quarry. Plymbridge Road. Waste spot near Whittaborough. Between Shaugh Bridge and village.
- V. On the coast. In a waste spot near Yealm Bridge, by a lane leading towards Ivybridge.
- VI. About the Erme estuary. Moory ground, Harford.

At Whitsand Bay a curious monstrosity, in which the scapes branched into several spikes, July, 1865.

LITTORELLA, L.

383. *L. lacustris, L.* *Plantain Shore-weed.*

Native ; in or about pools, streams, and damp pits.

Latter part of June to August, or later.

- d. III. In the gravelly bottom of the Devonport leat, near where it enters the plantation from Roborough Down, in plenty, 1874. Plaster Down ; in considerable quantity in a pit, and sparingly in a shallow depression, 1877.
- IV. A single plant in a pit on Roborough Down, September, 1859 ; *Phyt. v. N.S.* 370 ; searched for, but not seen again until 1873, when many plants were found in a pit, probably an old quarry, near the seventh milestone from Plymouth, and hundreds in another pit, east of this. In and about two ponds near the

China Clay Works on Crownhill Down ; also in another spot on this Down, which perhaps rather belongs to District v. The place was dry when the plant was found at it in 1870, but evidently water sometimes settles there.

I have seen this plant growing under water with the leaves quite coated with the white deposit from the washings of the clay for manufacture.

First record : *Briggs*, 1861.

Amaranthus albus. Casual. Very sparingly, with *Setaria viridis*, *Polygonum elatum*, and other weeds, in an arable field at Trevol, near Torpoint (District II.), September, 1876.

A. retroflexus, L. Casual. Very sparingly with the above, September, 1876.

CHENOPODIACEÆ.

SUÆDA, *Forsk.*

584. *S. maritima*, *Dumort.* *Annual Seablite.*

Native ; on mud or damp sand by salt water inlets and tidal rivers. Common. July to September.

- c. I. By the Notter, near Shillingham and Wacker. By Polbathick Lake. Near Markwell.
- II. Millbrook Creek ! ; *Keys*, *Fl.* iii. 205. About St. Johns Lake.
- d. III. Salt creek at Weston Mills ! ; *Banker* ; *id. et. ib.* Kinterbury. Tamerton. Blaxton. Holes Hole, &c., Beer Ferrers.
- IV. Cattedown ! ; *Keys*, *ib.* By Hooe Lake.
- V. By Coffleet Lake and below South Farm.
- VI. Below Cling Mill and at Efford.

SALSOLA, *L.*

585. *S. Kali*, *L.* *Prickly Saltwort.*

Native ; on sands by the coast and river estuaries. Rather rare. July to September.

- c. I. Downderry. Seaton.
- II. Whitsand Bay ! ; *Keys*, *Fl.* iii. 205.
- d. V. Sparingly by Wadham Beach, Bigbury Bay, 1875.
- VI. Mothecombe, and by the Erme estuary between that and Pamblete ; also at Saltercress, on the Kingston side.

SALICORNIA, *Tournef.*

586. *S. herbacea*, *L.* *Common Marsh Samphire.*

Native ; on the mud of salt water inlets, estuaries, and tidal rivers. Common. August.

- c. I. Near Sheviock Quay ; *Jacob, Fl.* part 18 ; still by the Notter in that neighbourhood, at Shillingham, &c.
- II. Millbrook Creek ; *Keys, Fl.* iii. 208. By St. Johns Lake. Carr-green.
- d. III. Weston Mills Lake ; acres of mud are here covered with it every summer. Kinterbury Creek. Tamerton Creek. Near Beer Ferrers.
- IV. Crabtree ; *Jacob, Fl.* part 18. By the Plym estuary, below Saltram.
- V. Coffleet Lake.
- VI. Efford. Below Cling Mill.

Often grows in places where it is submerged at high tide.

First record : *Jacob*, 1837.

BETA, *Tournef.*

587. B. maritima, L. Sea Beet.

Native ; on sea-cliffs and about the banks of salt water inlets and tidal rivers. Very common. June to October.

Grows on the open coast cliffs, as well as plentifully about the tidal waters of all the Districts. In some quantity at Tin Side, below Plymouth Hoe, 1880.

Rarely gathered to boil as a vegetable, but not made the use of for culinary purposes that it deserves to be.

First record : *Jones*, in *Bot. Tour*, 16 ; 1820.

CHENOPodium, L.

588. C. polyspermum, L. Many-seeded Goosefoot.

Colonist or Native ; in cultivated ground and about the borders of fields. Rare, but widely distributed. July to September.

- c. I. Near Antony ; one plant in a field of mangold wurzel, &c., near the village ; one in another, nearer Antony House, 1877 ; again one in the locality, 1879. A few in a field at Sconner, Sheviock, 1878.
- II. Neighbourhood of Torpoint ; 1861, 1876.
- d. III. Corn-field at Blaxton, 1868.
- IV. Fursdon, Egg Buckland, 1862 ; near Stoneybridge, in the same parish, 1864.
- V. Among cabbages in a damp clayey field close to Ford, between Ridgway and Lee Mill Bridge, rather sparingly, 1877.
- VI. Near Ivybridge, on the banks of the Erme ; *Jones, Tour*, 14 ; seen in that neighbourhood, 1865. Many plants in a cultivated peaty field near Hanger Down, 1878.

First record : *Jones*, 1820.

589. *C. olidum*, Curt. *Stinking Goosefoot.*

- Denizen, probably ; in shady spots by walls and about roadsides near houses. Very rare. Part of July to September.
- c. II. At the foot of a wall, Torpoint, 1860, 1877, &c.
 - d. III. Stoke Damerel ; *Phyt.* v. N.S. 370. Specimen, *Herb. Plym. Inst.*, *Dr. Jacob* ; behind Tamar Terrace ; *Herb. Gould.*, August, 1851. Seen in that neighbourhood at different times ; a single plant behind Osborne Place, 1871 ; one or two, 1873 ; one at the foot of a wall near the Rectory-house, 1877.
 - [IV. Tothill Lane, Plymouth ; *Keys, Fl.* iii. 205 ; rather Tothill Road or Whitefriars Lane ; formerly here at the foot of the wall bounding the grounds of Beaumont House, and opposite the site of the old Friary buildings and grounds : not seen for several years past. A single plant by a temporary road close to 'workings' for a new railway line, between the lodge of Beaumont House and Charles Place, Plymouth, very near the old station of the plant, September, 1875.]
 - VI. One plant by a wall in front of a garden-plot at Ivybridge, October, 1879.

Perhaps derived from ancient cultivation for medicinal uses. Its appearance in District IV. is likely to have been due to the existence of the Friary there in ancient times. It was interesting to find the plant reappearing in the neighbourhood, in 1875, after the surface of the ground had been disturbed.

590. *C. album*, L. *White Goosefoot ; 'Lamb's-tongue.'*

Native or Colonist ; in cultivated ground, and in waste spots by roadsides, &c. Very common. Part of July to November. Area general.

An extremely common weed. Very variable. We have the three varieties, a. *candicans*, b. *viride*, and c. *paganum*. I have no note of *candicans* for District I., or of *viride* for III., but doubtless each occurs in every District.

591. *C. murale*, L. *Nettle-leaved Goosefoot.*

Native or Colonist ; in cultivated ground, waste spots by roads or footpaths, and in garden-plots. Rare and very local. July to October.

- c. II. Neighbourhood of Torpoint ; in garden ground there at various times ; in a field by the turnpike road, near Wilcove, 1876.
- d. III. Near Stoke Church, 1844 ; garden below Argaum Villas, Stoke ; *Holmes, Keys, Fl.* iii. 206 ; near the Orphan Asylum, 1879 ; also elsewhere in that neighbourhood at other times. On turf close to the entrance gates to Mount Wise, Devonport, 1871.

Sometimes as a weed in gardens in Plymouth, in Albany Place, York Street, Morley Place, grounds of the Athenæum, &c. Two or three plants by a roadside at Earl's Acre, between Plymouth and Milehouse, June, 1879.

- IV. Waste ground below the Hoe Quarries, 1874. Rubbish heap at Deadmans Bay, 1873; in garden ground, 1875. Cattedown, 1875, &c. Garden ground behind Charles Place, Plymouth. Elm Road, Mannamead, 1866.

Though the above stations appear under three Districts, yet the area covered by this species is comparatively small, since the stations all lie in or near the towns of Plymouth and Devonport.

592. C. Bonus-Henricus, L. Allgood.

Denizen; in waste spots and at the foot of walls near houses or gardens. Very rare. May to September.

- c. I. By a wall at St. Stephens, 1876, and previously. Four plants in a waste place close to Newton House, Pillaton, an old mansion formerly the seat of the Corytons (now of Pentillie).
d. V. Roadside close to Puslinch House; known there for many years past, and station recorded in *Jour. Bot.* v. 311, 1867.

This is evidently derived from ancient cultivation. It was grown in gardens until comparatively recently.

C. urbiculum, L. Plymouth; *Bartlett, MS., Keys, Fl.* iii. 206. Error, probably.

C. rubrum, L. Plymouth; *Holmes, id. et. ib.* Likely an error, through one of the other species being mistaken for it.

ATRIPLEX, L.

593. A. angustifolia, Sm. Narrow-leaved Orache.

Native; in cultivated land amongst corn and other crops, by roadsides, and in waste places. Very common. Latter part of July to October. Area general.

Occurs from the coast to the semi-moorland parishes.

594. A. erecta, Huds. A. patula, L., var. b. serrata, Boswell-Syme, E. B. ed. 3.

Native or Colonist; in corn-fields and other cultivated lands. Rather (?) common. July to September.

- c. II. Rame.
d. III. Corn-field between Weston Mills and Honicknowle, 1875.
V. Wembury. Between Bridgend and Revelstoke Church. Cornwood.
VI. Kingston. Ivybridge.

This may be commoner than the above list of stations would seem to indicate, indeed there is little doubt but that it occurs in all the Districts. It is only within the past few years that I have come to understand the plant to which the names quoted belong.

595. A. deltoidea, Bab. *Triangular-leaved Orache.*

Native ; in waste places by roadsides, and as a weed in arable fields. Common. August to October.

- c. I. Notter Bridge. St. Mellion.
- II. Near Torpoint. Millbrook. St. Johns. Calstock.
- d. III. Between Pennycomequick and Stoke Damerel, 1872. Richmond Walk, Devonport, 1872. Pennycross. Between Beer Alston and Gawton. Roadside between Fancy and Roborough, 1878.
- IV. Tothill Lane, Plymouth, 1872. Plympton.
- V. Wembury. Brixton.
- VI. Ivybridge.

596. A. Smithii, Syme. *Smith's Orache.*

Native ; in waste spots by roadsides, as a weed in arable land, and on the borders of fields. Very common. August to October. Area general.

Occurs close to Plymouth, and extends over the enclosed and cultivated portions of the area. Grows sometimes about tidal waters.

597. A. Babingtonii, Woods. *Babington's Orache.*

Native ; on sandy and shingly sea-shores, about river estuaries, and by other tidal waters. Very common. August, September.

- c. I. Seaton Sands.
- II. Near St. Johns !; *Keys, Fl. iii.* 209. By Millbrook Lake. By the Tamar at Cotehele.
- d. III. Mud flat by the Tamar, near Holes Hole.
- IV. Laira Embankment ; Mount Batten ; *id. et. ib.* Cattedown, and elsewhere about the waters of the Plym estuary.
- V. Weinbury !; *id. et. ib.* By Bigbury Bay, at Wadham Sands.
- VI. Mothecombe.

Sometimes one or two of the other species are associated with this on the coast or by tidal waters.

598. A. arenaria, Woods. *Frosted Sea Orache.*

Native ; on sand-banks by estuaries, or on the coast. Very rare. August, September.

- c. II. Seaton Sands ; *Pascoe, in Phyt. ii.* 943, 1847. Extinct ?
- d. VI. On the Kingston side of the Erme estuary, August, 1867 ; not seen recently.

I have searched the Seaton locality, but have never been able to meet with this plant there.

First record : *Pascoe*, 1847.

599. *A. portulacoides*, L. Sea Purslane.

Native ; on mud-flats and in waste spots by tidal rivers and inlets.

Rather common. August, September.

- c. I. St. Germans ; *Keys, Fl.* iii. 209. Wacker and Denabole. By the Notter, near Trevolland. Polbathick. By Forder Lake.
- II. By Millbrook Lake, near Southdown. Saltash. Kingsmill. Cargreen.
- d. III. Keyham ; *id. et. ib.* By Weston Mills Lake. Kinterbury. Tamerton. Blaxton. Beer Ferrers.
- V. By Coffleet Lake.

As yet never found by the estuaries of the Plym and Erme, though so frequent about the tidal waters of the Notter and Tamar.

POLYGONACEÆ.

RUMEX, L.

600. *R. conglomeratus*, Murr. Sharp Dock.

Native ; by roadsides, in damp waste ground, and in marshes.

Very common. July to September. Area general.

Grows close to the town, and is one of the most widely diffused species of the genus.

601. *R. rupestris*, Le Gall. Rock Dock.

Native ; on maritime rocks and low cliffs, also in sandy or stony spots on the sea-shore. Rather common. July, August.

- c. I. On the shore at Downderry ; also a little to the east of Port Wrinkle.
- II. By Whitsand Bay at Tregantle, also in plenty on rocks at its eastern end, near Rame Head, growing with *R. conglomeratus* and *R. crispus*.
- d. V. In plenty on the stony shore between Wembury Point and the church, growing with *R. conglomeratus* and *R. crispus*. On rocks by Bigbury Bay, at Wadham.
- VI. By the little cove below Kingston, on the shore of Bigbury Bay. A single plant on the western side of the Erme estuary, below Pamflete, in a spot fully exposed to the sea breezes and tidal influences of the broad estuary, though half-a-mile from the open sea, 1876.

For particulars concerning this plant see *Jour. Bot.* iv. N.S. 294, 295, 337; v. 1-4; also *Boswell*, in *Bot. Ex. Club Rep.*, 1875, 24. Professor Babington has informed me that this Plymouth plant agrees well with that of the French north-west coasts. Some account of a presumed hybrid between *R. rupestris* and *R. pulcher* will be found after the notice of the latter species.

First record : *Briggs*, 1875.

602. *R. nemorosus*, Schrad.

a. *viridis*.

Native ; in waste places, by roadsides, and on banks. Very common. July to September. Area general.

One of the commonest species ; found by the roads close to the town. A trigranulate form on a hedge-bank near Torpoint (District II.) 1876.

b. *sanguineus*, L. *Bloody-veined Dock*.

Very rare, and perhaps only as a Denizen.

d. III. A few plants on both sides of the road between Plymouth and Milehouse, near a cottage, 1866, and subsequently ; but not seen very recently, and perhaps now extinct.

603. *R. pulcher*, L. *Fiddle Dock*.

Native ; by roadsides, footpaths, and in waste places, especially near houses ; also on dry banks and in old turf pastures. Locally common. June, July.

c. I. St. Germans Beacon. Seaton. Trevolland. St. Stephens.

II. In old pasture land above Whitsand Bay. Between Rame Head and Penlee Point. Forder, Rame. Maker. Near Cremyll. Torpoint. Wilcove. About Saltash and Combe.

d. III. Stoke Church ! near Devonport ; *Banker, Keys, Fl.* iii. 210. Still about Stoke and Devonport ; by Richmond Walk, about the Guard-house opposite Mount Wise, &c. Mutley. Swilly, and elsewhere between Milehouse and Saltash. In pasture land in the vale below Ford. Devil's Point. About St. Budeaux. By a little cove nearly opposite Saltash. Blaxton. Sparingly at Crown Hill, Knackersknowle. Bank by the Plymouth and Buckland Monachorum Road, near Buckland Abbey.

IV. Common about Plymouth ; *Holmes, Keys, ib.* At Tothill, and by the Exeter Road, just out of Plymouth ; also on limestone banks between the town and Cattedown. In old pasture land near the cove below Hey Brook. Staddiscombe. About Radford. Mount Batten. Saltram. Mount Gould, in pasture land. By a road near the castle ruins, Plympton.

V. In pasture land above Wembury Cliffs. In a meadow at Revel-

stoke, and on the sea-bank near Worsewell. Newton Ferrers. Yealmpton, in a pasture. A single plant near Lutton, by the road to Cornwood, 1874.

VI. Mothecombe.

This species chooses for the most part warm spots, and by far the larger number of its stations are in the neighbourhood of the coast or near tidal waters. At Crown Hill, however, in District III., it occurs at an elevation of 425 feet.

Particulars concerning several peculiar plants, apparently hybrids between this species and two or three of the others, have appeared in some of the *Reports of the Botanical Exchange Club*. One from near Torpoint (District II.), and another from a pasture at Tothill (IV.), Dr. Boswell considers to be between it and *R. conglomeratus*. They were collected in 1873. A few plants, very similar, I found at Swilly (District III.), in 1879, growing with the presumed parents and with *R. nemorosus* and *R. Friesii*. (See *Boswell*, in *Bot. Ex. Club Reps.* 1872-74, 34, 35; 1876, 31.

Another Dock, intermediate between *pulcher* and *rupestris*, I found in two spots on the shore of Whitsand Bay, near Rame Head (District II.), in July, 1876, growing with the latter; *pulcher* occurring on the upper part of the cliffs and in the old pasture land immediately above. There were several roots, and many specimens have been distributed through the Botanical Exchange Club. In the *Report* of this Club for 1877-78 there is mentioned a supposed hybrid between *pulcher* and *obtusifolius*, obtained from "Waste ground, West Head (Whitsand Bay), near the sea, July 12, 1878." It was collected and sent to the Club by the Rev. Augustin Ley.

604. *R. obtusifolius*, *Auct.* *Broad-leaved Dock.*

Native; in marshes, moist fields, orchards, and damp waste places. Very common. June, July. Area general.

The species that supplies the leaves often wrapped around butter brought to Plymouth Market. So far as I am aware it is only var. a. *Friesii* that occurs in the area. Sometimes seen in damp plots of ground in the town of Plymouth.

605. *R. pratensis*, *M. and K.* *Meadow Dock.*

Native; in waste places, by roadsides, in pastures and marshes. Common, and widely diffused. June to August.

c. I. Hessenford. Port Wrinkle. Downderry. Between Saltash and Notter Bridge. Between Stoketon and Moditon Mill. Between Landrake and Tideford. Between Filbridge and Wooton Cross. Pillaton. Between Tideford Cross and Killa.

II. Rame. Near Anderton. St. Johns. Torpoint. Antony. Calstock.

d. III. Two or three plants between Pennycomequick and Stoke, 1874;

one behind Osborne Villas, Stoke, 1873. Pennycross. Blaxton. Beer Ferrers. Crown Hill, and elsewhere near Knackersknowle.

IV. Pophlet. About Saltram. Oreston and Hooe. Crabtree. Shalaford. Common Wood.

V. Just above the rocks near Revelstoke Church, near Netton and Rowden, about Noss, &c., in that parish. Preston, Newton Ferrers.

VI. Waste spot by a quarry near Torr, Kingston, growing with *R. conglomeratus*, *R. obtusifolius*, and *R. crispus*, 1874. Ivybridge.

Generally found sparingly at any one spot growing with other *Rumices*. First record : *Briggs*, 1873, in *Jour. Bot.* ii. N.S. 375.

606. *R. crispus*, L. *Curled Dock*.

Native ; by roadsides, in waste places, marshes, cultivated ground, on damp rocks or among shingle on the coast. Very common, June to August, or later. Area general.

Probably the commonest of the Docks. The form with the enlarged petals all tubercled is frequent on the coast and by tidal waters. I have noted it for all the Districts except iv. In 1874 I found a curious variety of *crispus* by the side of a tidal inlet from the Erme, a little below Efford (District vi.). Of it Dr. Boswell writes, "Evidently a form of *crispus* intermediate between vars. *subcordatus* and *elongatus*. It has the lax panicle and elongate branches common to the two varieties." (See *Bot. Ex. Club Rep.* 1872-74, 36, 37.)

Another peculiar plant from the foot of a cliff near Downderry, collected in 1876, was noticed by him in *Report of the Botanical Exchange Club*, 1876, as follows : "I think this must be referred to *R. crispus*, var. *subcordatus*, Warren. It appears to fruit too freely to be a hybrid, still, as Mr. Briggs suggests, it may be one between *crispus* and *pratensis*" (p. 32).

607. *R. Hydrolapathum*, Huds. *Great Water Dock*.

Native ; in swampy ground in a river valley. Very rare. July, August.

c. I. In marshes in the valley of the Seaton, between Hessenford and the coast.

608. *R. maximus*, Schreb.

Native ; on a sandy shore. Very rare. July, August.

c. I. A few plants on the sandy shore below a cliff at Downderry, St. Germans, August, 1875 ; three there the succeeding year.

Considered by many a variety of *R. Hydrolapathum* : it is the var. *latifolius* of Borrer. I have placed it as a species here in order to fall in

with the arrangement adopted in the *London Catalogue*, ed. 7. (See *Jour. Bot.* v. N.S. 27, 28; and *Bot. Ex. Club. Rep.* 1875, 25.)

First record : *Briggs*, 1876.

609. R. Acetosa, L. *Common Sorrel*; ‘*Sour Sabs*’ (*Sauce?*).

Native ; in pastures, marshes, meadows, and on hedge-banks.

Very common. May, June. Area general.

Occurs in the immediate neighbourhood of the town, and ranges from the coast to Dartmoor.

610. R. Acetosella, L. *Sheep’s Sorrel*.

Native ; on dry or rocky banks, in hilly and barren pastures, and on open moors and commons. Very common. May to July.

Area general.

Occurs in the immediate neighbourhood of Plymouth, and is found in both the enclosed and open portions of the area. Very partial to the granitic tracts.

POLYGONUM, L.

611. P. Convolvulus, L. *Climbing Buckwheat*.

Native or Colonist ; amongst corn and other crops, in recently disturbed waste ground, and on earthy hedge-banks. Very common. July to October. Area general.

Distributed over the cultivated and enclosed portions of country.

612. P. aviculare, L. *Common Knotgrass*.

Native ; about paths and cattle-sheds in fields, by roadsides, and in cultivated ground. Very common. June to November. Area general.

An abundant weed ; the var. *c. arenastrum* is quite common, and occurs in all the Districts ; on the shore between Mount Batten and Jenny Cliff a narrow-leaved form of it, August, 1872. The var. *a. agrestinum* I believe to be also common ; I have noted it for Districts II., III., and V. A striking plant, from a field at Pennycross, sent to the Botanical Exchange Club some years ago, and which has since been seen in the locality, Dr. Boswell said he believed to be var. *d. microspermum*. I refer to this a plant occurring at Pennycomequick (District III.), and near Egg Buckland (IV.). What seems to me *e. rurivagum* I have noticed at St. Johns (II.) and above Bigbury Bay (V.). The striking variety *f. littorale* grows at Whitsand Bay (*Keys, Fl.* iii. 213), where I saw it on the sandy shore between Seaton and Downderry (District I.), in 1876 ; also at Wembury (*Hore, id. et. ib.*), whence I forwarded specimens to the Botanical Exchange Club in 1867 ; and by the Erme estuary, on the Kingston side (District VI.).

613. P. Raii, Bab. *Ray's Knotgrass.*

Native ; on sandy or shingly shores on the coast and by estuaries.

Rather common. June to October.

- c. I. Seaton !; *Hore, Keys, Fl.* iii. 213. Downderry.
- II. Whitsand Bay, in the sand; *Keys, Phyt.* iii. 1022; seen near Rame Head.
- d. V. Wembury. By Bigbury Bay, at Wadham, sparingly, 1875.
- VI. About the Erme estuary, on the Kingston side; and also near Pamflete, and just below Efford.

First record : *Keys*, 1850.

614. P. Hydropiper, L. *Water Pepper.*

Native ; in muddy spots by roadsides, and about ditches, ponds, and pools. Very common. August to October. Area general.

Occurs not only in the enclosed country, but also about pools on open commons.

The seeds of this are sometimes destroyed by a minute fungus, looking like the 'smut' of wheat.

615. P. Persicaria, L. *Common Persicaria.*

Native ; in waste spots, by roadsides, and in cultivated ground.

Very common. July to October. Area general.

A variable species. Sometimes the flowers are very light pink ; more rarely they are of a bright purplish-red colour. A plant with white ones, close to another, near Longbridge, September, 1877. Occasionally there are a few stalked glands on the perianth.

b. elatum, E. B. ed. 3.

- c. II. Among weeds in a field at Trevol, near Torpoint, with *Setaria viridis*, and one or two aliens ; so probably sprung from seed brought in some way or other to the spot, September, 1876. The name confirmed by Dr. Boswell as the plant of *English Botany*. It is scarcely sufficiently marked to constitute even a variety. Some luxuriant forms of the species met with elsewhere might perhaps also do for var. *elatum*.

616. P. lapathifolium, L. *Glandular Persicaria.*

Native ; in damp waste ground, and as a weed in arable fields and on manure heaps. Common. July to October.

- c. I. Sheviock.
- II. Antony. Anderton.
- d. III. Between Pennycomequick and Prospect. Honicknowle. Between Plymouth and Saltash Passage. Cultivated ground by the Tavy.

IV. Knackersknowle. Riverford.

V. Between Harford and Cornwood.

VI. Ivybridge.

Several of the stations that I have on record as for *P. lapathifolium* were noted before I separated the segregate species, *P. maculatum* from *lapathifolium genuinum*, and in consequence some doubt exists as to whether the records under the Cornwall Districts I. and II. belong to the segregate *genuinum*. Those for the others certainly do so.

617. *P. maculatum*, Dyer.

Native; by roadsides and in cultivated ground. Rather common?

July to September.

- c. II. One plant by the roadside near St. Mellion village, growing with *P. Persicaria*, in a damp spot, September, 1877. Carbeal.
- d. III. One plant among vegetables at Stoke Damerel, 1878. Honicknowle. Knackersknowle. Beer Ferrers.

IV. Two plants by the roadside in Higher Compton Lane, August, 1878.

V. Between Harford and Cornwood. Near Lutton.

I believe this graduates into *lapathifolium*, as plants with characters more or less intermediate occur. I would regard it as a variety only.

618. *P. amphibium*, L. *Amphibious Bistort*.

Native; in water; also in damp marshes and moist waste spots.

Rather common. June to September.

- c. I. Seaton.
- II. Weir Head!; *Keys, Fl.* iii. 212; here only, in the waters of the Tamar, have I seen the aquatic form, which is consequently very rare in the area. Tamar Valley. Near Calstock.
- d. III. Marsh between Morwellham and Weir Head.
- IV. Marsh, Longbridge!; *Holmes, Keys, ib.* Marsh below Shalaford Lane, Egg Buckland; in flower in August, 1867. Between Colebrook and Newnham; several flower spikes, September, 1879.
- VI. Mothecombe; on a damp sand-bank.

From what is stated above it will be apparent that all the stations except "Weir Head" have reference to the land form of this species, *b. terrestre*. This flowers only very sparingly.

619. *P. Bistorta*, L. *Common Bistort*.

Denizen; on hedge-banks near houses, in orchards and pasture land. Rare. Part of May, June.

- c. I. Sparingly on a hedge-bank by a house near Trematon village, 1868.

- II. Calstock ; *Keys*, *S. D. Lit. Chron.* 351, and *Fl.* iii. 212. On a bank below an orchard at Botus Fleming.
- d. III. Weston Mills ; *Phyt.* v. N.S. 370.
- IV. In two fields and on an intervening hedge-bank at Shaugh. In an orchard at Bircham [and formerly also at Goosewell, but destroyed], Egg Buckland.
- V. On a hedge-bank near a house at Torr, Newton Ferrers. On one bounding a garden at Cornwood.
- VI. Sparingly on a damp hedge-bank at Caton.
- I have seen this pretty plant still in cultivation in an old garden.
First record : *Keys*, 1846.

P. Fagopyrum, L. Casual. Sometimes sown to furnish food for pheasants. It also appears, though very rarely, as a Casual with other crops.

THYMELEACEÆ.

DAPHNE, L.

620. D. Laureola, L. Spurge Laurel.

Native or Denizen ; in woods and on hedge-banks. Very rare. February, March.

- c. II. Two bushes, one bearing fruit, on a hedge-bank bounding a strawberry-garden at Halton Quay, May, 1874.
- d. III. Hedges about Manadon Hill, *Mr. C. Johns*; woods behind Manadon House ; Boxhill ; *Banks*, *Fl.* part 1. A single bush, looking as if dying, on a hedge-bank very near a house at Prospect, Pennycross, 1871.
- IV. A small plant of about two years' growth on a hedge-bank by Leigham Lane, doubtless derived from the neighbouring grounds of Leigham House, Egg Buckland, 1871. A small bush on a hedge-bank at Laira, 1872 : seen in gardens in that neighbourhood.
- V. In a wood on limestone, near Yealmpton village ; a single bush on the opposite side of the Yealm, at Torr ; altogether in fair quantity, associated with *Cornus*, *Ligustrum*, *Corylus*, &c.
- VI. Near Harford Bridge, *Rev. W. Hinckes* ; *Fl. Dev.* 68. Near Harford Bridge, on the Erme ; *Stew. Fl. Torq.* 113.

This may be indigenous on the limestone in District v. ; at every other place where I have seen it I consider it has either sprung from the seed of cultivated bushes or else been planted.

First record : *Jones and Kingston*, 1829.

Asarum europaeum, L. Alien ; planted. Ham ; *Rev. C. T. Collins, Banks, Fl.* Mrs. Collins's garden at Ham, near Plymouth : plant said to be found wild in an old quarry in the neighbourhood ; note in *Herb. Borrer., Keys, Fl.* The gentleman referred to by Banks as the Rev. C. T. Collins, who was subsequently known as the Rev. C. T. Collins Trelawny, informed me some years ago that he had himself introduced the *Asarum*, together with some other reputed British species, into the grounds at Ham.

Empetrum nigrum, L. Grows on Dartmoor, but not on any portion that comes within either of the Districts.

EUPHORBIACEÆ.

EUPHORBIA, L.

621. E. *Peplis*, L. Purple Spurge.

Native ; on sand by the coast. Very rare, or extinct.

- c. I. Seaton ; *Hore, Keys, Fl.* iii. 215.
- II. One plant nearly at the eastern end of Whitsand Bay, surrounded by bushes of *Cakile maritima*, August 5th, 1847 ; Pascoe, in *Phyt.* ii. 944, 1847. Johns ; specimen, *Herb. Cornwall Hort. Society, Keys, ib.*

622. E. *Helioscopia*, L. Sun Spurge.

Colonist ; in cultivated fields and waste spots about arable land. Common. April to November.

- c. I. Near Tregantle Fort. Antony.
- II. Torpoint. St. Johns.
- d. III. Whitleigh. Pennycross.
- IV. Mount Batten. Laira. Egg Buckland.
- V. Wembury. Revelstoke. Newton Ferrers.
- VI. Above Bigbury Bay. Kingston.

623. [E. *platyphylla*, L. Broad-leaved Warted Spurge.

Casual ? Not seen recently, and probably extinct.

- c. II. Torpoint ; *Hore, Phyt.* i. 163, 1842. Johns ; specimen in *Herb. Cornwall Hort. Society, Keys, Fl.* iii. 215.]

624. E. *amygdaloides*, L. Woody Spurge.

Native ; in copses, woods, bushy waste places, and on hedge-banks. Common. April, May.

- c. I. Hessenford, in plenty. Between two and three miles from Saltash

on the road to Notter Bridge, and about Notter Bridge. Between Moditon Mill and Notter Mill. Near Pillaton Mill.

II. Harewood.

- d. III. Manadon Wood!; *Keys, S. D. Lit. Chron.* iii. 216. By the Plymouth leat channel at Pennycross. Budshead Wood, &c., St. Budeaux. Horsham, Warleigh and Postham, Tamerton Foliot. Woods of the Tavy Valley. Between Lophill and Milton. Roborough Plantation. Newbridge, above the Tamar.
- IV. Saltram; *id. et. ib.* On the limestone east of the Plym estuary; at Oreston, between Pomphlet and Billacombe, &c. Woods below Staddiscombe, towards Radford. Longbridge, and in profusion in certain parts of the Plym Valley woods. Near Colebrook. Derriford, and near Fancy.
- V. Between Noss and Yealm Ferry. Between Newton Ferrers village and Yealmpton. Near Lynham. About Fordbrook, Blackpool, &c., Brixton.
- VI. Wood on the Kingston side of the Erme estuary, and between Kingston and Sequers Bridge. Between Mothecombe and Pamflete, and elsewhere about Holbeton. Ermington.

Grows abundantly at about 560 feet in District III.

625. E. Paralias, L. Sea Spurge.

Native; in sand on the coast or by tidal water. Very rare. July, August, or later.

- c. II. Whitsand Bay; *Keys, Fl.* iii. 216. I have a specimen collected there in 1861, but I did not note the spot exactly, so possibly it may belong to District I.
- d. VI. On a sand-bank by the Erme, at Pamflete.

626. E. portlandica, L. Portland Spurge.

Native; on cliffs by the coast. Rare. April to September.

- c. II. Whitsand Bay; *Keys, Fl.* iii. 216; there near Tregantle, 1880.
- d. VI. By Bigbury Bay, below Kingston. Cliff at Meadowfoot Cove, Mothecombe.

627. E. Peplus, L. Petty Spurge.

Colonist or Native; in cultivated fields, garden ground, on earth-capped walls and banks. Very common. March to November. Area general.

A weed in gardens in the town of Plymouth, grounds of Athenæum, Hospital, &c.

628. E. exigua, L. Dwarf Spurge.

Colonist; among corn and other crops, and on banks near arable land. Common. June to November.

- c. I. Between Port Wrinkle and St. Germans Beacon. Waste spot near Notter farm-house. Tideford. Between Filbridge and Wooton Cross. Derniford. Pillaton.
- II. Between Cremyll and Millbrook. Between Torpoint and St. Johns. Antony.
- d. III. Banks by the Plymouth and Saltash Road. Tamerton Foliot. Beer Ferrers. Between Roborough Down and Walkhampton.
- IV. In a limestone quarry at Wixenford. Egg Buckland.
- V. Newton Ferrers. Cornwood.
- VI. Cultivated ground above Bigbury Bay. Mothecombe. Kingston. Holbeton.

Perhaps this might be placed with the 'very common' species.

E. Lathyris, L. Alien or Casual. About a dozen plants in a waste plot of ground, Blaxton (District III.), 1878; one in cultivated ground at Fursdon, Egg Buckland (iv.), 1861. If allowed to seed in a garden it will prove a persistent weed.

MERCURIALIS, Tournef.

629. M. perennis, L. Perennial Dog's Mercury.

Native; in woods, copses, and on shady hedge-banks. Very common. February to April. Area general.

Occurs very near the town of Plymouth, as by the old channel of the leat below Mutley Plain, near Lipson Terrace, &c. In some of our damp woods it is in profusion.

I have seen the Marsh Titmouse (*Parus palustris*) feeding on its seeds.

630. M. annua, L. Annual Dog's Mercury.

Colonist or Casual; in waste spots and in garden ground. Very rare. July to September.

d. IV. On the refuse from the quarries at Cattedown; *Banks, Fl.* part 6. Quarries, Plymouth, possibly imported with ballast; *Hore, in Phyt. i. 163.* Several plants at Cattedown, July, 1864.

var. *b. ambigua*.

d. III. A weed in a vegetable garden at Stoke Damerel, 1863; *Jour. Bot. i. 378*; seen there, 1875, but perhaps now extinct.

This does not seem to be permanent at Cattedown, and whenever it has appeared there it may have sprung from introduced seeds, as the locality is one where ballast gets deposited from small vessels. At Stoke the var. *ambigua* has certainly renewed itself by seed for a series of years.

First record: *Banks, 1830.*

URTICACEÆ.

PARIETARIA, *Tournef.*

631. P. diffusa, Koch. *Pellitory of the Wall.*

Native ; on old walls and on very dry stony or rocky banks, especially by tidal waters and near houses. Common. May to November.

- c. I. Trematon, &c., St. Stephens. St. Germans. St. Erney church-tower, 1871. Tideford. Pillaton.
- II. Rame. Bank by Millbrook Lake. St. Johns. Tinnel. Cotehele. St. Mellion.
- d. III. Between Swilly and Boldventure. Plymouth and Tavistock Road, near Torr Grove. Dry bank above Kinterbury Creek. On rocky banks, &c., by Tamerton Creek. St. Budeaux. Beer Ferrers.
- IV. Hoe ; *Keys, S. D. Lit. Chron.* 351 ; still in the crevices of limestone rocks above the steps at Tin Side, 1880. On the wall of a storehouse close to the Barbican Quay, Plymouth. Catte-down. Tothill. Lane between Mannamead and Lipson. Plymstock. Plympton. Thornbury, Egg Buckland.
- V. Wembury. Newton Ferrers. Brixton. Hedge in the vale of the Yealm, near Puslinch Bridge. Between Westlake and Yealm Bridge. Dunstone.
- VI. Mothecombe. Near Carsewell. Kingston. Modbury. Ermington. Decidedly indigenous on banks and low cliffs by many of the tidal waters, but probably an escape about some of the villages of the area. I have once seen it in cultivation on account of alleged medicinal value. It is given as 'common' in Banks's *Flora*, but without any special stations being named.

First record : *Banks*, 1830.

URTICA, *Tournef.*

632. U. dioica, L. *Common Nettle.*

Native ; in waste places, thickets, pastures, and on the borders of fields. Very common. June to September. Area general.

A tall slender form or variety, perhaps the var. *b. angustifolia*, W. and G., of Babington's *Manual*, grows by the roadside between Marsh Mills and Plympton St. Mary Church (District iv.).

633. U. urens, L. *Small Nettle.*

Native or Colonist ; in waste places, by roadsides, and on manure heaps, mostly near houses ; also as a weed in cultivated ground. Common. March to October.

- c. I. St. Stephens. Landrake.
- II. Wiggle, Rame. Cawsand. Millbrook. Saltash. Torpoint.
- d. III. Cultivated ground by the Cemetery Road, Stoke Damerel, 1873.
Weston Mills. St. Budeaux. Knackersknowle. Beer Ferrers.
- IV. Between Tothill and Little Saltram. Deadman's Bay. Compton. Crabtree. Plymstock. Colebrook.
- V. Battisborough Cross. Newton Ferrers. Knighton. Brixton. Yealmpton.
- VI. Mothecombe. Carsewell. Holbeton. Modbury.

Shows a marked partiality for growing in villages, particularly when they are near salt water. Usually considered a Native British species, but I think it questionable if it ought not to be regarded rather as a Colonist.

It is given as 'plentiful' in Banks's *Plymouth and Devonport Flora*.

HUMULUS, L.

634. H. Lupulus, L. Common Hop.

Native, though mostly only Denizen; in damp thickets and hedges, generally near houses, or about orchards or gardens. Common. July to September.

- c. I. By the Seaton at Hessenford, and between that and the coast. Hedges near Polscove. Tideford. Trematon village. Notter Bridge, and near Moditon Mill. Near Antony village. Hedge near houses at Killa. Saltash and Callington Road, near Burraton and near Hatt.
- II. Wilcove; near Cawsand; *Keys, Fl.* iii. 219. Near Millbrook, by the road to St. Johns, also between Millbrook and Rame. Hedge near Cremyll. Near a house between Etheric and Cotehele Quay. Wood between Harewood entrance-gate and Calstock Church, and elsewhere about Calstock. Halton.
- d. III. Valley between Boxhill and Ham. Near Weston Mills. Honicknowle. Vale at Blaxton. Wood between Lophill and Denham Bridge. Milton. Hedge by a cherry-orchard, Gawton, &c., Beer Ferrers. Hedge by a cottage garden between Walkhampton and Huckworthy Bridge.
- IV. Plymstock; *Keys, ib.* [Lipson; formerly in the vale below Freedom Fields path; destroyed by alterations a few years ago.] Hedge close to a house between Tothill and Little Saltram. In damp hedges by a field between Saltram Stag Gate and Elburton. By the Plym, between Longbridge and Plymbridge. Alderpit, Stoneybridge, Thornbury, &c., Egg Buckland. Darklake, Bickleigh.
- V. Cliff close to Revelstoke Church. Hedge near Rowden, Revelstoke. Newton Ferrers. Knighton. Near Coffleet Mill, &c.,

Brixton. Near Yealmpton, at Yealm Bridge, &c. In the valley of the Yealm, near Weston Mills. Hedge by the turnpike road near Lee Mill Bridge. About Cornwood.

- VI. Hedge by a small tributary of the Erme, near Flete. In one by an orchard near Cling Mill. Strood, &c., Ermington. Hedge near Modbury, and at Brownstone. Near Ivybridge.

This looks as if indigenous in some of our warm, sheltered vales and low-lying hedges, especially between St. Johns and Millbrook (District II.), in the valley between Boxhill and Ham (III.), in the Yealm Valley (v.), and near Flete (vi.). When planted in congenial soil it spreads rapidly, and is, I have no doubt, only an introduction at by far the larger number of its stations.

ULMUS, L.

635. U. suberosa, Ehrh. Common Elm.

Denizen or Native; in hedge-rows, where it is often allowed to attain the size of a tree, and in other bushy places. Common, though somewhat locally so. February, March.

- c. I. Antony. Blarrick.
- II. Near Torpoint. St. Dominick.
- d. III. Stoke Damerel. King's Tamerton. About Tamerton Foliot. Beer Ferrers.
- IV. Frequent in hedges just around Plymouth, at Tothill, &c. Plymstock. Alderpit, Stoneybridge, &c., Egg Buckland.
- V. Near Bridgend. Yealmpton. Between Ridgway and Ivybridge.
- VI. Mothecombe. Kingston. Ermington.

b. glabra, Mill. Cornish Elm.

- c. I. Hessenford. St. Germans. Sheviock. Antony. Common about St. Stephens. Between Killa and Filbridge.
- II. Just above a cliff by the Tamar, near Wilcove. On a low cliff at Pill, near Saltash. St. Dominick.
- d. III. Pennycross.
- IV. In a hedge close to Down Thomas village. Plymstock, by the road to Elburton. By the tramway near Shalaford, Egg Buckland. Between Compton village and Little Efford.
- V. Hedge-rows about Harestone.
- VI. Torr, Kingston. Orcherton. Modbury. Between Ivybridge and Cadleigh.

The Elm is one of the most frequent hedge-row bushes in certain localities, whilst it is quite absent, as such, from many others. The variety *glabra* comes into leaf later than the type. It sometimes forms a tree of moderate size, but does not attain the huge dimensions of the other. The two differ greatly in arboreal effect. The variety wants the grandeur of the type, but greatly exceeds it in elegance. There is a finely-shaped

and rather large example of *glabra* on the archery ground at Manadon, where it was doubtless planted; there are also some fine trees at Radford.

636. U. montana, Sm. Broad-leaved Elm.

Denizen (?) ; in hedges ; rarely elsewhere. Rather rare. February, March.

- c. II. Near Millbrook. A small tree in a hedge near St. Johns village.
- d. III. Hedges about Tamerton Foliot village. Milton.
- IV. Hedge-row at Leigham, near the cross-road to Estover. Hedges near Thornbury Corner, by the field-path to Derriford from Plymbridge Road.
- V. A row of bushes in a hedge by an orchard near Efford. In a rocky wood at Rounds Nest, near Yealmpton village.
- VI. Between Battisborough and Mothecombe. Near Flete. Modbury, in a hedge near the town. Hedge-row near Ivybridge.

This looks little like a Native species, except on the limestone at Rounds Nest, in District v., occurring usually rather sparingly in hedge-rows. I doubt if it is indigenous even at Rounds Nest.

A M E N T I F E R Æ.

QUERCUS, Tournef.

637. Q. Robur, L. Common Oak.

Native ; in woods, copses, and hedges. Very common. Part of April, May. Area general.

The vars. *a. pedunculata* and *c. sessiliflora* form the principal growth of most of the aboriginal woods and copses ; and the former is very frequent in hedge-rows, occurring in some quite near the town of Plymouth.

var. *c. sessiliflora*, Sm. Sessile-fruited Oak.

Common.

- c. I. Valley of the Seaton, between Hessenford and the coast. In abundance in Wacker Wood ; also some fine trees in the meadow below Sheviock Rectory-house. Hedges between Blarrick farm-house and Trelay. By the tidal Notter, near Shillingham.
- II. Harewood, by the path to Morwellham Ferry.
- d. III. By Weston Mills Lake, close to the Keyham and Saltash Road. Whitleigh Wood. Blaxton ; also *b. intermedia*. Wood above the Tamar, opposite Calstock, and at Gawton, Beer Ferrers. Tavy Valley, at Denham Bridge.
- IV. Wood above Plymbridge ; *Rev. G. B. Warren, Ravensh. Fl. 61.* In plenty in some of the woods of the Plym Valley. Saltram Wood. Bircham, and Fursdon, Egg Buckland.

- V. Passage Wood, by the Yealm estuary. Hedge between Collaton Cross and Bridgend ; both *sessiliflora* and *b. intermedia*.
- VI. Woods above Ivybridge ; *Notes to Carrington's Dartmoor*, 1826 : seen in that neighbourhood, 1874. On the left bank of the Erme, near Mothecombe ; also a form with the sessile fruit of, but shorter petiole than in, *sessiliflora*. Wood a little below Efford.

Q. sessiliflora is connected with *pedunculata* by the form *intermedia*, in which the peduncles vary considerably in length, even on the same tree.

The round smooth galls formed by *Cynips linicola* on the Oak are sometimes collected by poor persons to form into fancy baskets for ferns or other plants.

Q. Ilex, L. Alien. This, the Evergreen Oak, occurs on some banks, or in hedges, near old planted trees, in places where the acorns have fallen, or to which they have been carried by mice or birds. A bush seen between St. Mellion and Halton Quay ; one or two by the Torpoint and Antony Road ; one, on which I have seen flowers, on a hedge-bank near Trevol (District II.) ; on banks by the Plymouth and Tavistock Road, opposite Vinstone and at Manadon Hill, &c.

Q. Cerris, L. Alien. This, the Turkey Oak, is much planted, and occasionally springs up under similar circumstances to the last.

CASTANEA, *Tournef.*

638. C. vulgaris, Lam. Sweet Chestnut.

- Alien ; in woods, plantations, and hedge-rows. Rather rare.
- c. I. A bush on the side of a hedge-bank near St. Mellion village, 1875.
 - II. Naturalized in Cotehele Wood.
 - d. III. Budshend Wood. Wood opposite Maristow. A bush on a hedge-bank between Blaxton and Maristow. One between Woodlands Fort and Knackersknowle.
 - IV. Plym Valley, near Riverford. Hedge-rows where was formerly Buckland Down. Bickleigh. Chaddlewood.
 - V. In one place in a hedge-row by a lane leading towards the Yealm from Knighton village. Yeo, near Yealmpton.

This springs from self-sown seed in old plantations.

Some Chestnut-trees at Cotehele are justly celebrated on account of their size and age.

FAGUS, *Tournef.*

639. F. sylvatica, L. Common Beech.

Denizen, probably ; in woods and hedge-rows. Common. Part of April, May.

- c. I. Near Sheviock, but no doubt planted.
- II. Here and there in hedges about Botus Fleming.

D. III. Budshead Wood.

IV. Plym Valley woods, in certain spots. Hedges where was formerly Buckland Down ; certainly planted.

V. Hedges between Yealm Bridge and Ermington.

VI. Wood by the Erme, near Efford. On a bushy bank near Okinbury, between Kingston and Ringmore.

The Beech is much planted, and in favourable situations springs up very readily from self-sown seed. Bearing this fact in mind, I think that if it were an indigenous species it would be more generally diffused than we find it to be. The stations noted under the Districts will serve to show the situations in which we now see it. It goes very well into the Denizen class.

Compared with other forest trees the Beech is of rare occurrence in Devonshire and Cornwall ; *Polwh. Hist. Corn.* i. 171, 1803.

CORYLUS, *Tournef.***640. C. Avellana, L. Hazel ; 'Nuttal-bush ; 'Halse.'**

Native ; in woods, copses, and hedges. Very common. Part of January to March. Area general.

Often forms a bushy undergrowth beneath the forest trees of aboriginal woods, and is one of the most frequent of hedge-row bushes. A few years ago a remarkably large hazel stood in a quarry-pit by the old road between Polscove and Polbathick ; it was cut down before 1879. There is a fine example in the vale below Crownhill Down, near Newnham Park (District iv.). A form with leaves much cut in a hedge between Saltram Stag Gate and Hay.

CARPINUS, L.**641. C. Betulus, L. Hornbeam.**

Denizen, apparently ; in plantations, hedge-rows, and woods.

Rather rare. May.

c. I. Hedge near Trethill, but no doubt planted.

II. On the border of the lawn at Wolsdon, near Antony.

d. III. A bush on the side of a hedge-bank at St. Budeaux. Budshead.

A few bushes in a hedge by Drunkard's Lane, and in another near Postham, Tamerton Foliot. Warleigh Wood, appearing both as undergrowth and in the form of small trees. A young seedling in Woodlands Wood.

IV. Saltram Wood, above the Laira. Hedge near Thornbury Corner, and between Leigham and Plymbridge, Egg Buckland. A bush with Beech, by a hedge-bank between Elfordleigh and Shaugh, 1876. A great deal in a hedge-row by the lane leading from Bickleigh village to Roborough Down. Near Ridgway.

The Hornbeam is an Alien rather than a Denizen in Districts i. and ii.

ALNUS, Tournef.

- 642. A. glutinosa, L.** *Common Alder; 'Aller.'*

Native; on the banks of rivers and streams, in swampy places, and in hedges of the low country. Common. February, March.

- c. I. Seaton Valley. St. Germans. Sheviock. Notter Valley.
- II. Hedge-row by Hay Lane, near Torpoint. Near Penhale. Kingsmill.
- d. III. Honicknowle. Budshead Wood. Warleigh Wood. Tavy Valley. Between Tavistock and Horrabridge.
- IV. Between Staddiscombe and Goosewell. Plym Valley, Derriford, Fursdon, &c., Egg Buckland. Plympton St. Mary.
- V. Fordbrook. Lee Mill Bridge.
- VI. Flete. Ivybridge.

Perhaps this might go into the 'very common' list.

A valley or moor where alders grow is called in Devonshire an allerbear; *Polwh. Hist. Devonsh.* I have never heard the word *allerbear* used. Mr. Worth informs me that the word beer, bere, or bear, which occurs so frequently in the names of places in Devon, is from the Saxon *beera*, a grove; thus, allerbear = alder grove.

BETULA, Tournef.

- 643. B. alba, L.**

Native; in woods, copses, and hedges. Common. Part of April, May.

a. verrucosa, Ehrh. *White Birch.*

- c. I. Caracawn. Near Clapper Bridge, by both the road to Pillaton and to Quethiock. By the stream below Pillaton Down, growing close to *glutinosa*, Wallr. Between Pillaton and St. Mellion.
- II. Harewood; *Keys, Fl.* iii. 224. Between Callington and Gunnislake.
- d. III. Blaxton. Hedge between Inchers and Roborough village. Near Denham Bridge. Wood above the Tamar, opposite Calstock, also between Beer Alston and Tuckermarsh Quay.
- IV. Common Wood, Plymbridge Road, and Derriford, Egg Buckland. Near Bickleigh.
- VI. Erme Valley, between Ivybridge and Harford.

Trees somewhat intermediate between this and *glutinosa* occur.

b. glutinosa, Wallr., inclusive of *c. pubescens*, Ehrh. *Common Birch.*

- c. I. Near Hessenford (*pubescens*). Wacker Wood, and near Sconner House (*pubescens*). Pillaton Down (*glutinosa*). Border of

Viverdon Down. Hedge between Notter Bridge and Wooton Cross. Between Landrake and Blunts (*pubescens*).

II. Between St. Mellion and Halton Quay. Between Etheric and Cotehele Quay (*pubescens*). Between Harrowbarrow and Calstock (*pubescens*). Between Callington and Gunnislake.

d. III. Blaxton (*glutinosa*, or intermediate). Roborough (*pubescens*). Double Water (both *vars.*). Tamar Valley, between Morwellham and Weir Head ; also in a wood opposite Calstock, &c. Near Horrabridge (*glutinosa*).

IV. Fursdon, Derriford, and Common Wood, Egg Buckland ; a bush on Derriford estate with catkin scales furnished with spreading, slightly falcate lobes, as in *verrucosa*, though in the main agreeing rather with *glutinosa*. Bickleigh (*glutinosa*). Between Newnham and Crownhill Down (*pubescens*).

V. Lambside. Newton Ferrers. Between Yealm Bridge and Flete (*pubescens*). Hedge between Dunstone and Holbeton. Near Lutton (*glutinosa*), &c., Cornwood.

VI. Between Kingston and Ringmore. Hedge near Sequers Bridge (*pubescens*). Erme Valley, between Ivybridge and Harford (*glutinosa* and strongly marked *pubescens*).

In *English Botany*, ed. 3, *Betula verrucosa* and *B. glutinosa* are given as sub-species of an aggregate one, *B. alba* ; and *B. glutinosa* is made up of two varieties, *denudata* and *pubescens*.

Betula verrucosa is rather common in our hilly woods and copres, though the larger number of our Birch trees come under the *glutinosa* of *English Botany*.

The Birch is very frequent among the copse wood of the hilly and semi-moorland tracts, appearing also in the hedge-rows.

MYRICA, L.

644. M. Gale, L. Bog Myrtle.

Native ; in wet moory or marshy ground. Rare, and very local. May, June.

d. III. Marsh near Morwellham Quay ; *Banks, Fl.* part 8. Probably extinct.

IV. Several bushes, occurring over two or three square yards, by a stream in a marshy meadow below Shaugh Wood, 1877.

V. Grows in great abundance on the skirts of Dartmoor, and is called by the moormen gauls ; *Polwh. Hist. Devonsh.* i. 95 ; 1797. In profusion on the swampy flat below Pen Beacon, on the southern border of Dartmoor ; also in boggy ground, in the same neighbourhood, about the large tributary of the Yealm, just above Dalamore.

In connection with the record contained in the *Plymouth and Devonport Flora*, Mr. Banks remarks : "The author feels more than common interest in describing this plant, it having been first pointed out to him by his late esteemed and much-lamented friend, Mr. N. T. Carrington, in his last excursion on the Tamar : its unexpected appearance at Morwellham Quay excited the surprise of the poet, who, up to that period, had considered it peculiar to the vicinity of Dartmoor ; an opinion which he has recorded in his beautiful poem of that name."

POPULUS, Tournef.

645. P. tremula, L. Aspen.

Native or Denizen ; in hedges and other bushy places. Rare, though widely distributed. March.

- c. I. A small tree in the Seaton Valley, with alders and other indigenous trees, 1876. Hedge between St. Winolls and Tredrossel. In a hedge near Trematon. Two trees in the Notter Valley, near Clapper Bridge ; probably planted, 1870.
 - II. A small tree in a hedge a little west of Millbrook, 1873. By a lane near St. Johns village. Hedge at Weard, near Saltash. Hedge between Calstock and Weir Head.
 - d. III. Near Bickham. A few bushes by the road to Denham Bridge from the Plymouth Road. Beer Ferrers. A tree, not far from a house, near Double Water.
 - IV. Bank by a road to Staddon Heights ; in a spot where a hedge-bank formerly stood, 1873. A small tree among copse-wood, between Plympton and Elburton. Very sparingly in a hedge between Newnham and Crownhill Down.
 - V. For some yards in a hedge at Collaford, again in less quantity between that and Yealmpton.
 - VI. Sequers Bridge.
- Generally in small quantity at a station.

P. alba, L. Alien. In a hedge-row between Caracawn Cross and Hessenford (District I.). Doubtless originally planted.

P. nigra, L. Alien. Often planted.

SALIX, Tournef.

646. S. fragilis, L. Crack Willow.

Native probably in some places ; in hedges and by streams. Rather common. Latter part of April, May.

- c. I. A single tree in the Seaton Valley, between Hessenford and the coast, growing with alders and sallow bushes, 1874. Hedges by or in the vicinity of the Torpoint and Liskeard Road, be-

tween Polbathick and Trerule; also a bush near Antony village.

- II. Near Millbrook. A large bush on a damp hedge-bank near the hamlet of Lower Tregantle, 1875. Tamar Valley, near Weir Head.
- d. III. Hedge below Budshead Wood.
- IV. A bush on a hedge-bank above a swampy corner of a meadow between Goosewell and Radford, Plymstock, 1873. Meadow below Egg Buckland village. A few bushes by a stream in a damp pasture at Common Wood, Egg Buckland.
- V. Vale between Fordbrook and Chittleburn, Brixton. Between Yealmpton and Collaford. By the Plymouth and Ivybridge Road, near Lee Mill Bridge.
- VI. Scotscombe. Ringmore. Ermington, and between that and Ugborough. Hedge by the Plymouth and Ivybridge Road, near Cadleigh.

647. *S. alba*, L. *White Willow*.

Denizen or Alien; in low hedges and bushy places about damp meadows or streams. Rare and local.

- c. II. In hedges in marshes by the Tamar at Calstock; at least some of the bushes certainly planted.
- d. III. By a drain close to the Tamar, at the ferry-place from Beer to Calstock; very probably planted.
- V. Several bushes or small trees in the vale between Chittleburn Wood and Fordbrook, Brixton, on the south of the Plymouth Road; with *S. fragilis* and *S. triandra*, var. *Hoffmanniana*, in the locality.

648. *S. triandra*, L. *Almond-leaved Willow*.

Native; in bushy places by streams and about swamps, and in hedge-rows in low situations. Rather common, but in many spots doubtless originally planted. May.

- c. I. A bush in the Seaton Vale, between Hessenford and the coast; likely to have been derived from the osier-plot close to Hessenford village, 1873. A large one in the vale a little above Polbathick Mill, 1875. Near Moditon Mill, by a little bridge over the tributary of the Notter.
- II. A bush in a hedge at Kingsmill; probably planted.
- d. III. In a damp meadow between Blaxton and Inchers.
- IV. In the meadow below Egg Buckland village. Vale below Alderpit, Egg Buckland: the female plant; but probably here only as the remnant of an osier-plot.
- V. Between Chittleburn Wood and Fordbrook, Brixton; apparently

var. *Hoffmanniana*. Puslinch. By the turnpike road at Kitley.
Hedges near Lee Mill Bridge.

VI. Flete, close to Sequers Bridge. Modbury.

649. *S. viminalis*, L. Common Osier.

Native? In hedge-rows in moist situations. Rather rare.
April.

- c. I. Hedge by the Torpoint and Liskeard Road, close to the cross lane to Hessenford, also nearer Trerule. Two bushes close to Caracawn Cross. Near Tideford; probably planted.
- d. III. An old bush by Keyham Lane, Stoke Damerel, 1872. By the Tamar, between Holes Hole and Weir Head. Hedge between Beer Alston and Tuckermarsh Quay.
- IV. Hedge by the Dartmoor tramway at Leigham; and a single bush close to Efford Mill, Egg Buckland.
- V. Bridgend. Between Ridgway and Ivybridge.
- VI. Ermington. Modbury, in a hedge very near the town.

650. *S. ferruginea*, Anders. Ferruginous Osier.

Native or Denizen; in hedges and damp bushy places. Rather common. April.

- c. I. Hedge by the Torpoint and Liskeard Road, near Trerule.
- d. V. Hedge, Yealm Bridge.

b. rugosa.

- c. I. Between Hessenford and Caracawn Cross. Between Polbathick and Trerule. Near Sheviock. St. Stephens.
- II. Saltash and Callington Road between Hatt and St. Mellion. Calstock.
- d. III. Bush on Mutley Plain, by the old channel of the Plymouth leat, 1880. Pennycross.
- IV. Hedge, Furze Hill, between Plymouth and Lipson, 1880. Bircham, and near Estover, Egg Buckland.
- V. Between Lee Mill Bridge and Ivybridge.
- VI. Holbeton. Sequers Bridge. Modbury.

In applying the name *rugosa* I have been guided mainly by a specimen of a willow received from Mr. Watson, so named '*fide Leefe*;' together with others from Mr. Brotherston, 'confirmed by several good authorities.' The name of *ferruginea* for the Yealm Bridge plant was confirmed by Dr. Boswell some years ago. A willow from near Revelstoke Church may be *S. Smithiana*, Willd., but I refrain from naming it until it has had further study. I do not know of any willow in the area that exactly answers to '*S. Smithiana*,' as represented by specimens from Kew Gardens.

651. *S. cinerea*, L. *Common Sallow.*

Native ; in damp places in copses and woods, by streams, in waste bushy spots, and in hedges. Very common. March, April. Area general.

Undoubtedly the commonest species of the genus. It is very frequent in the river valleys of Dartmoor, and although it prefers damp situations, yet it sometimes occurs in very dry spots, such as on rocky banks, or even wall-tops, readily springing from seed in such places.

On a bank at Crabtree (District IV.) I have seen a bush producing both pistillate and staminate flowers : some catkins were composed entirely of the one, and some entirely of the other ; many had the two intermixed, with other flowers of intermediate character. On a hedge-bank near Kingsand village (District II.) the var. *c. oleifolia*, or a form near it.

652. *S. aurita*, L. *Wrinkled-leaved Sallow.*

Native ; in damp waste bushy and swampy places, on moors, and in hedges. Common. Part of April, May.

- c. I. Between Crafthole and St. Germans Beacon. Hessenford. Near Elmgate, &c., St. Stephens. Between Landrake and Tideford Cross. Pillaton Down.
- II. Between Maker Heights and Millbrook. Saltash and Callington Road. Between St. Mellion and Halton Quay.
- d. III. Honicknowle. Warleigh Wood. Between Denham Bridge and Beer Ferrers. Pound, Buckland Monachorum.
- IV. Pool, Common Wood, and Derriford, Egg Buckland. Yannaton Down.
- V. Hedge-row at Lambside. Near Holbeton village. Waste place near Stretchley. Moory ground near Cholwichtown.
- VI. Near Ermington. Near Ivybridge. Erme Valley, on Dartmoor. One of the commonest bushes on the damp parts of moors and commons, and in the river valleys of Dartmoor.

653. *S. caprea*, L. *Great Sallow.*

Native ; in copses, woods, waste bushy places and hedges. Very common. March, April.

After *S. cinerea* the commonest and most generally diffused of our willows, although in some limited tracts *aurita* may be more frequent. Occurs between Mutley and Pounds, and elsewhere near the town of Plymouth. A form with very large and broad leaves grows at St. Johns.

654. *S. repens*, L. *Dwarf Willow.*

Native ; on commons, and in damp waste or moory places. Rare and local. April, May, and later.

- c. I. A bush on a bank by the Torpoint and Liskeard Road, near Pol-

- bathick. Viverdon Down ; also in plenty in an enclosure below it, 1875.
- II. Several bushes in a low bushy pasture near St. Johns village ; one *genuina* ; another nearest *ascendens*, but with ovate leaves. Waste spot by the road to St. Dominick, near Vernico Down.
- d. III. [In a piece of boggy ground near Axter Gate, Roborough, by the road from the village to Tamerton Foliot, in plenty, 1865, but since destroyed by the drainage and cultivation of the ground ; specimens thence seem to go best under vars. *genuina* and *fusca* respectively ; whilst a third is near *argentea*.]
- IV. On a hedge-bank by the rough cartway from the clay works over Hemerdon Ball ; two bushes, 1871. In a piece of waste ground in an enclosure from Roborough Down, near Leeford ; two forms, 1879.
- V. In plenty in two or three pastures by Crownhill Down ; also on the moory flat below Cholwichtown, in the same neighbourhood ; one form the typical plant, or near it ; another, *fusca*, 1871.
-

C O N I F E R Æ.

TAXUS, *Tournef.*

655. T. baccata, L. Yew.

Denizen or Alien ; in wooded or bushy places. Very rare. March, April.

- d. III. A very small bush on the side of a hedge-bank by Warleigh Wood, Tamerton Foliot, 1871.
- IV. A single bush seen many years ago in a bushy spot on Derriford estate, and another on that of Fursdon, Egg Buckland.
- V. In a wood near Yealmpton, perhaps planted. A single bush on a low cliff by the tidal inlet below Kitley, where it would seem not to have been planted, 1875.

This species is recorded in Banks's *Flora*, but his stations are so unsatisfactory that they are not incorporated with the above. They are, "Ford, *Mr. Tripe* ; Boxhill, *Mr. Morris* ; woods near Manadon House ; and churchyards." Perhaps, when not planted, in every case sown by birds.

Pinus sylvestris, L. The Scotch Fir occasionally springs from seed shed by planted trees, and in favourable situations attains the dimensions of a tree. Some small seedling trees growing on the side of the cutting at the head of Manadon Hill (District iv.) ; two on garden walls at Hareston (v.), each a foot or two in height, in 1875.

MONOCOTYLEDONES.

TYPHACEÆ.

TYPHA, *Tournef.*

656. T. latifolia, L. Common Catstail.

Native ; in wet or very damp spots in marshes. Very rare. July.

d. III. Marsh by the Tavy, opposite Lophill. Specimens found here in some respects intermediate between *latifolia* and *angustifolia*.

IV. "Some of my botanical coadjutors have found this in Chelston Meadow and near Longbridge ;" *Keys, Fl.* iii. 246. Extinct ?

Some *Typhæ* specimens collected in the neighbourhood present characters more or less intermediate between *T. latifolia* and *T. angustifolia*. One from the Tavy Valley, collected in July, 1876, I sent to Dr. Boswell, for the Botanical Exchange Club, with the note, "I suppose *angustifolia*, by the narrow leaves, &c., but the larger of the spikes seems in some measure to approach *T. latifolia*." In the subsequent Report of the Club Dr. Boswell remarked, "This comes very near the *T. latifolia, b. media*, but it is nearer the genuine *latifolia* than the Wimbledon plants mentioned in *English Botany*, ed. 3." (*Rep.* 1876, 34.)

657. T. angustifolia, L. Narrow-leaved Catstail.

Native ; in muddy and wet places by rivers and ponds. Rare. July.

c. I. By the Notter, a little below Stoketon, 1871 ; the male spikes furnished with about three foliaceous bracts. In a damp place in a marsh on the right bank of the Tidy, just below Tideford village. In a large pond in a field by the road from Tideford Cross to Landrake, in plenty : male spikes all furnished with bracts and contiguous to the female ones. Spikes remarkably long.

II. Pond at Pentillie.

d. III. Marsh by the Tavy, at Lophill : male spikes furnished with sub-foliaceous bracts.

I suspect that the male spikes of *T. angustifolia* are always furnished with bracts, but that their very deciduous character has caused the contrary to be stated.

First record : *Briggs*, in *Jour. Bot.*, 1867.

SPARGANIUM, Tournef.

- 658. S. ramosum, Huds.** *Branched Bur-reed.*

Native ; in and about ditches, ponds, slow streams and rivers.

Common. June to August, or later.

- c. I. Seaton Valley. Sconner. Latchbrook, St. Stephens. Between Landrake and Tideford. Killia. Notter Valley.
- II. Banks of the Tamar, near Calstock ; *Keys, Fl.* iii. 247. Pill, near Saltash. Between St. Winnow and Millbrook.
- d. III. Vale below Ford, Stoke Damerel. Warleigh Marsh.
- IV. Chelson Meadow ; *Keys, ib.* Shalaford, Egg Buckland. Plympton St. Mary.
- V. Between Battisborough and Lolesbury. Near Bridgend. Between Puslinch Bridge and Yealmpton, and elsewhere in the Yealm Valley. Between Brixton and Plympton.
- VI. Flete. Ivybridge.

- 659. S. simplex, Huds.** *Unbranched Bur-reed.*

Native ; in and about slow streams or pools. Very rare. July to September.

- d. III. By the small stream from the Devonport leat on Roborough Down ; also in the leat, near where it enters the plantation from the down.
 - IV. By the Plym at Riverford. In the canal between Longbridge and Plymbridge.
-

A R A C E Æ.**ARUM, L.**

- 660. A. maculatum, Huds.** *Common Cuckoopint ; 'Lords and Ladies.'*

Native ; on hedge-banks and in wooded or shady waste places. Very common. April, May. Area general.

Grows close to Plymouth, and abounds in many of the old hollow lanes. The leaves are usually wholly green, though the plant with spotted leaves has been noted for all the Districts except v. The Oil Beetle (*Meloë proscarabæus*) sometimes feeds on this plant.

L E M N A C E Æ.**LEMNA, L.**

- 661. L. minor, L.** *Lesser Duckweed.*

Native ; on the water of ponds, pools, and ditches. Very common. Area general.

The only species of the genus growing about Plymouth.

NAIADACEÆ.

POTAMOGETON, L.

- 662. P. natans, L.** Floating Pondweed.

Native ; in streams and ponds. Rather common. June to September.

- c. I. In a small tributary of the Notter, near Clapper Bridge.
- d. III. Pond near Blaxton. Valley of the Tavy, between Lophill and Denham Bridge.
- IV. Chelson Meadow ; Shaugh Bridge ; *Keys, Fl.* iii. 248, 49. Pond at Radford. Plym Valley, a little below Riverford. Wigvor Down. [Pond by the Great Western Railway, near Chaddlewood, 1866 ; since destroyed by alterations.]
- V. In the Yealm tributary near Dalamore.
- VI. Erme Valley, near Harford.

- 663. P. polygonifolius, Pourret.** Oblong-leaved Pondweed.

Native ; in peaty pools and pits, in swamps, and by small streams. Common. May to August, or later.

- c. I. Viverdon Down. Pillaton Down.
- II. Bog in a little vale near Harrowbarrow, below Hingston Down.
- d. III. Swampy spot in a field in the vale just above Honicknowle.
- IV. Bog on Derriford estate, Egg Buckland.
- V. Near Cholwichtown. Bog in an enclosure below Hanger Down.
- VI. In boggy ground near the railway viaduct, Ivybridge ; *Keys, Fl.* iii. 249. Hanger Down. Damp spot in the Erme Valley, between Ivybridge and Harford ; and in this valley on Dartmoor, growing in a deep pool, a form approaching *pseudo-fluitans*, *Eng. Bot.* ed. 3, but with fewer submerged leaves, 1876.

This is found mostly in the heathy and moory tracts.

- 664. P. crispus, L.** Curled Pondweed.

Native ; in streams. Very rare. August, September.

- d. IV. In the stream at Shalaford, Egg Buckland, associated with *Ranunculus Drouetii*.
- VI. In a stream at Modbury, below the Kingsbridge Road.

- 665. P. pusillus, L.** Small Pondweed.

Native ; in ponds and slow streams or ditches. Rare. July to September.

- c. II. Pond at Pentillie.
- d. IV. Chelson Meadow ; *Keys, Fl.* iii. 250. Pond at Radford.
- V. Mill-stream, Bridgend. Blackpool ; probably extinct.
- VI. Ditch at Flete ; very small.

At least some of the Plymouth examples belong to var. *b. tenuissimus*.

- 666. *P. pectinatus*, L., var. *b. scoparius*.** *Fennel-leaved Pondweed.*
Native ; in the brackish water of a marsh drain. Very rare.
d. IV. Drain, Chelson Meadow ; *Mr. W. B. Waterfall*, 1877. Specimen seen.

ZANNICHELLIA, L.

- 667. *Z. pedicillata*, Fries.** *Stalk-fruited Horned Pondweed.*
May to July, or later.
c. I. In a pool by the Seaton estuary, close to the coast.
d. IV. Saltram ; *Keys, Fl.* iii. 250. This is given under "*Z. palustris*" in the *Flora of Devon and Cornwall*, but I have ventured to insert the station under *pedicillata*, as from the situation the plant found at Saltram was most likely this latter, regarded by many as a sub-species, or even variety only, of the former.

RUPPIA, L.

- 668. *R. rostellata*, Hartm.** *Lesser Ruppia.*
Native ; in a marsh drain, and in pools of brackish water. Very rare. June to September.
d. IV. Saltram Marshes, in Chelson Meadow ; *Keys, Fl.* iii. 250. Specimen in *Herb. Gould.*, July, 1850.
VI. In little pools close to where a small stream from Holbeton village runs into the Erme estuary ; flowering and fruiting, June, 1878.

The Chelson Meadow plant was found to be the segregate *rostellata*, and not *spiralis*, through fruiting specimens forwarded to me by Mr. W. B. Waterfall, in August, 1876. In Keys's *Flora* it is given under the old aggregate name of *maritima*.

ZOSTERA, L.

- 669. *Z. marina*, L.** *Common Grasswrack.*
Native ; in the sea, and, as var. *angustifolia*, on the mud of tidal waters. Very common, probably.
From the situations in which this grows it is impossible to ascertain its distribution very exactly. Mostly seen cast up by the tide.

- 670. *Z. nana*, Roth.** *Dwarf Grasswrack.*
Native ; on the mud of tidal inlets or rivers. Rather common ? July, or later.
c. II. On the mud of the tidal inlet from the Tamar estuary, below St. Johns.
d. III. On mud by the tidal Tavy, at Beer Ferrers.
VI. On the mud of a tidal inlet from the Erme, below Cling Mill, near Kingston.

A great deal of what must be either this or else *Z. marina*, *b. angustifolia*, grows on the soft mud of creeks and estuaries about Plymouth : often in spots whence it is difficult or impossible to obtain specimens for examination.

ALISMACEÆ.

TRIGLOCHIN, L.

- 671. T. palustre, L.** *Marsh Arrowgrass.*

Native ; in marshes, about springs, and in damp pasture land, on the coast or near tidal waters. Rather rare. Part of May to September.

- c. I. Seaton, growing in damp sand, and in adjoining marsh land. Denabole, Sheviock.
 - II. On a damp rock on the shore at Whitsand Bay, near Rame. Pasture by St. Johns Lake. Kingsmill. Cotehele, in a damp spot close to the quay by the Tamar.
 - d. III. Creek at Blaxton ; *Holmes, Keys, Fl.* iii. 246 : seen in that neighbourhood. Marshy ground, Kinterbury ; in plenty, 1876. Marsh on the Beer side of the Tavy, a little above Lophill, growing with *T. maritimum*.
 - IV. Chelson Meadow, 1844 ; *Keys, ib.* One plant by a rill above the coast between Bovisand and Wembury, 1866.
 - VI. In a drain in a marsh near an inlet from the Erme, above Motecombe, 1868.
- Quite sub-maritime in distribution.

- 672. T. maritimum, L.** *Sea-side Arrowgrass.*

Native ; on banks of consolidated mud, in salt marshes and other damp spots by salt or brackish water. Very common. May to September.

- c. I. Between Trematon and Antony Passage ; *Keys, Fl.* iii. 246. By Denabole Lake. Tideford. By the tidal Notter.
- II. Between Torpoint and St. Johns ; Calstock ; *Frean, Keys, ib.* By Millbrook Lake. Pentillie. Cotehele and Halton.
- d. III. Keyham ; *Ravensh. Fl.* 68 ! ; 1879. By Stonehouse Mill Pond, below Deadlake, 1874. By Weston Mills Lake. Kinterbury. Tamerton Foliot. Blaxton. Marsh on the Beer side of the Tavy, at Lophill.
- IV. Chelson Meadow, by the drain.
- V. By Coffleet Lake, also by the tidal Yealm, below South Farm.
- VI. By the Erme at Efford, and near Cling Mill.

ALISMA, L.

- 673. A. Plantago, L.** *Greater Water Plantain.*

Native ; in or by ponds, ditches, and rivers. Common. July to September.

- c. I. Seaton Valley. By Sconner Lake. Between Pillaton Mill and Clapper Bridge. Killa.
 - II. Banks of the Tamar, near Calstock ; *Keys, Fl.* iii. 245. Pool by a lane leading to Antony village from the field-path between Trevol and St Johns. Kingsmill. Pentillie.
 - d. III. At the mouth of a small stream by Weston Mills Lake, below Barn Copse, 1879. Tamerton Foliot. Warleigh Marsh.
 - IV. Compton, 1844 ; by the river Plym ; Chelson Meadow ; *Keys, ib.* Laira, 1849 ; specimen, *Herb. Gould.* In the mill pond between Lipson and Compton village, 1872. Shalaford, Egg Buckland.
 - V. Near Puslinch, &c., in the Yealm Valley. Blackpool.
 - VI. Ivybridge ; *Keys, ib.* Flete, and between that and Mothecombe.
-

HYDROCHARIDACEÆ.**ELODIA, Rich.**

- 674. E. canadensis, Mich.** *Water Thyme.*

Alien. Very rare.

- d. IV. In the mill pond between Lipson and Compton village, in plenty, 1873, but introduced there some years previous.
-

ORCHIDACEÆ.**ORCHIS, L.**

- 675. O. pyramidalis, L.** *Pyramidal Orchis.*

Native ; on banks about the borders of fields, and in waste rocky or bushy places on limestone ; also on grassy sand-banks on or near the coast. Rare and local. Part of June, July.

- d. IV. In great plenty in a small pasture on the Yealmpton Road, 1858 ; sparingly near Oreston Quarries ; *Phyt. v. N.S.* 371. Saltram Wood ; near Elburton ; *Holmes, Keys, Fl.* iii. 228. In 1858 the plant was in greater quantity in the pasture situated near Elburton than I have ever seen it elsewhere, but shortly after the ground was broken and brought into cultivation : I noticed one plant there with nearly white flowers. It occurs in many spots on the limestone beds between the Plym estuary and

Elburton : I have seen it near Saltram, Oreston, Radford, Plymstock, and Elburton. It would probably be now more plentiful at Saltram, and some of the other spots, but for the ravages of thoughtless plant collectors. A single plant near the workings of Bottle Hill Mine, near Newnham ; not on limestone ; July, 1869.

- VI. On both a grassy bank and a hedge-bank on the Kingston side of the Erme estuary, with flowers varying from purplish-white to rosy-crimson ; in plenty in the latter situation, 1875. In a turf spot on sand by Meadowfoot Cove, below Mothecombe village, also here and there on the cliff above, 1873.

A strikingly local species. Some authors suppose that when growing in sand, as in District vi., it obtains calcareous matter from the comminuted shells of marine molluscs.

676. *O. Morio, L.* *Green-winged Meadow Orchis.*

Native ; in rocky, bushy, and old turf pastures ; mostly on limestone. Very rare. May to part of July.

- d. IV. In a bushy spot, and also in an old pasture near Elburton ; in considerable numbers, 1866 ; reduced by extended cultivation of the ground, but still in fair quantity, 1878. Near Radford, 1872, and previously. Mount Batten, rather sparingly, 1878. Two or three plants in a peaty pasture at Hemerdon, 1870 ; half-a-dozen flowering plants and a few others in another pasture in that locality ; the blossoms of the two with open flowers of a very light purplish-rose or flesh-colour, 1878.

First record : *Briggs*, 1866.

677. *O. mascula, L.* *Early Purple Orchis.*

Native ; on hedge-banks, in open spots in woods, and in old pasture land. Very common. Part of April, May. Area general.

The commonest species of the Order, extending over all the enclosed and wooded tracts. A plant with white flowers between Tregantle and Crafthole ; one with light and leaves spotless, very near others, on a bank near Sheviock (District i.) ; three with white, with many others, in a pasture near Denham Bridge (iii.), 1871 ; one with purplish-white or light lilac flowers, and spotless leaves, in a lane near Orcherton (vi.), growing only two or three feet from another with the ordinary deep purple flowers, but with spotless leaves ; this latter still nearer a plant with flowers of similar colour, though with the leaves spotted, May, 1876. The form or variety with spotless leaves is rather frequent. In addition to the two Districts named it has been noted for iv. and v.

The flowers of this species are sometimes called 'cuckoos' by children.

678. *O. incarnata*, L. *Common Marsh Orchis.*

Native ; in a peaty moorland bog. Very rare. June, part of July.

- d. V. Many plants in a bog on Crownhill Down, 1878.

The plants at this station agree better with the description of *incarnata* than with that of *latifolia*, in *English Botany*, ed. 3 ; yet appear somewhat different from the *incarnata* seen growing in the Lizard district, in Cornwall.

679. *O. latifolia*, L. *Broad-leaved Marsh Orchis.*

Native ; in damp meadows, marshes, peaty pastures, and other moist places. Common. Latter part of May to part of July.

- c. I. Seaton Valley. Between Denabole Mill and Sheviock. Cutmere. Between St. Mellion and Pillaton. Near Trerule. Notter Valley.
 II. Carkeel.
 d. III. Near Honicknowle. Between Burrington and Manadon. Near Horrabridge.
 IV. Goosewell, Plymstock. Fursdon, Shalaford, &c., Egg Buckland. Hemerdon, with both spotted and spotless leaves. Newnham.
 V. Between Lambside and Preston. Near Stretchley.
 VI. Oldaport, near Kingston. Caton. Near Ivybridge.

The common Orchis of the marsh lands. The plant with spotless leaves is far more frequent than the other.

680. *O. maculata*, L. *Spotted Palmate Orchis.*

Native ; in bogs, heathy pastures, and on commons, especially in damp spots. Common. Latter part of May, June.

- c. I. Between Seaton and Treloy farm-house. Near Clapper Bridge. Viverdon Down. Pillaton Down. In damp ground by the turnpike road at Wacker Wood, and between that and Denabole Mill, a peculiar attenuated-looking form ; here a plant with semi-double flowers, mostly two-spurred, and in some cases with a small third spur ; the ovaries not twisted, and consequently the spurs appearing above, July, 1873. One with some two-spurred and semi-double flowers ; certain flowers with outer spurs enclosing one or two other spurs within them, June, 1875.
 II. In plenty in a waste spot between the Saltash and Callington Road and Ashland, 1876. Near St. Dominick.
 d. III. Tamerton Foliot. Roborough Down.
 IV. Derriford and Common Wood, Egg Buckland. Furzy ground near Cann plantations. Marshy meadow below Shaugh Wood. Near Lovaton.

V. Crownhill Down ; one plant with white flowers, 1871. Moor between Cornwood and Pen Beacon, and elsewhere near Cornwood.

VI. Flete. In boggy ground far out on Dartmoor, to the north of Staddon Barrow.

The only Orchis that I have ever met with in the wilder portions of Dartmoor. It is a very widely distributed species.

O. ustulata, L. Shaugh Vale ; *Dr. Moore, Fl. Dev.* 143. Error, no doubt.

GYMNADENIA, *R. Brown.*

681. **G. conopsea**, *Brown.* *Fragrant Orchis.*

Native ; in heathy or old pasture land. Very rare. June, July.

d. III. Roborough Down ; in the south-western part of this common, in two or three places, about fifty flowering plants, and perhaps altogether some hundreds, 1871, 1873.

IV. Roborough Down ; in plenty over a portion of the eastern part of the common, 1869, &c. About a dozen plants in an elevated part of Cann Plantation, where the trees are not sufficiently thick to cause dense shade ; at least treble that number in a heathy piece of ground on the other side of the stream below the plantation, 1868.

First record : *Briggs*, in *Phyt.* iv. N.S. 383.

HABENARIA, *Brown.*

682. **H. viridis**, *Brown.* *Frog Orchis.*

Native ; in rough elevated pasture land. Very rare. July.

d. IV. In rough portions of three or four elevated and partially heathy pastures a few miles from Plympton towards Dartmoor ; occurring in considerable numbers : say four dozen flowering specimens, 1876.

Found by Mr. Francis Brent, of Plymouth, a week or two previous, near Tavy Cleave, on Dartmoor, beyond the area of the *Flora*.

683. **H. bifolia**, *Bab. Man.* *Lesser Butterfly Orchis.*

Native ; on heaths and in turf pastures. Rather rare. June, July.

c. I. Viverdon Down. Pillaton Down. In plenty in heathy ground between Clapper Bridge and Hammett, 1870.

II. Vernico Down ; only one plant seen, 1870.

d. III. Roborough Down ; *Phyt.* vi. N.S. 355.

IV. Near Cadover Bridge ; *Keys, Fl.* iii. 229. In furzy ground near Cann Plantations. Hemerdon. Ringmoor Down.

Confined to the wilder tracts of country.

684. *H. chlorantha*, Bab. *Greater Butterfly Orchis.*

Native ; in damp bushy, wooded, or waste places. Rather common and widely distributed, though nowhere in great plenty. June, July.

- a. I. Hedge-banks between Caracawn Cross and Hessenford ; between twenty and thirty plants, 1874. Vale between St. Mellion and Pillaton. Wooded spot below Viverdon Down.
 - II. Kingsmill, 1865, 1879. A single plant in a waste piece of ground between the Saltash and Callington Road and Ashland, 1876.
 - d. III. Manadon Wood ; *Keys, S. D. Lit. Chron.* 351. Near Tamerton Foliot ; perhaps extinct. Between Blaxton and Roborough Down. Field near Roborough village. Woodland Wood, in plenty, 1877. A plant in a field near Tamar House, Beer Ferrers, 1868.
 - IV. Bircham, Egg Buckland. Fancy. Bickleigh. A single plant on Roborough Down, but not far from enclosures, 1868.
 - V. Lee Mill Bridge, 1878.
 - VI. Between Harford and Ivybridge ; *Mr. Gatcombe, Keys, Fl.* iii. 230. Under *Pteris* on Dartmoor, a little above Harford Bridge, 1876.
- Unlike *H. bifolia*, this is a sylvestral rather than ericetal species.

OPHRYS, L.**685. *O. apifera*, Huds. *Bee Orchis.***

Native ; on old rubble-heaps from limestone quarries. Very rare, and extremely local. June, part of July.

- d. IV. Cattedown Quarry (on a heap of limestone rubbish) ; *Keys, S. D. Lit. Chron.* 351. Seen on top of a rubble-heap there, and on the side of another, 1860 ; very sparingly on one, July 1st, 1875 ; also noticed in some of the intervening years.

The recent formation of a new line of railway, and the consequent removal of some of the limestone rubble mounds, may have rendered this extinct at its only local station. Should any botanist find plants there it is to be hoped he will refrain from gathering them. The number of dried specimens that I have seen in local herbaria show that a heedless and unscientific uprooting of this species was practised some years ago.

First record : *Keys*, 1846.

SPIRANTHES, Rich.**686. *S. autumnalis*, Rich. *Autumnal Ladies' Traces.***

Native ; in old pasture land, low or elevated ; and on commons. Rather common. August to October.

- c. I. Grounds of St. Mellion Rectory House ; *Jour. R. Inst. Corn.* iii. 51. In a turf place by the coast on the western side of the Seaton estuary.

- II. Rame Head; near Sharow Grot, Whitsand Bay!; *Keys, Fl.*
iii. 231. Maker Heights. Near St. Johns.
- d. III. In plenty in a pasture above the Tavy, between Lophill and Denham Bridge, 1875. Field by the path to the Calstock Ferry from Beer Alston.
- IV. Under Citadel and at Cattedown, 1844; marsh near Crabtree; Julian, 1852, *Keys, Fl.* iii. 231. Hoe, 1850; specimen, *Herb. Gould.* Bovisand. Between Goosewell farm-house and Stad-discombe. Near Hay farm-house. Plym Valley, Derriford, &c., Egg Buckland. Hemerdon. Bickleigh Down, perhaps all destroyed. Roborough Down.
- V. Wembury.
- VI. Caton; *Keys, ib.* Mothecombe, and on the Kingston side of the Erme estuary. Near Oldaport. Enclosure below Hanger Down; only one plant seen, 1879. In fair quantity in a rough clayey meadow between Ivybridge and Cadleigh, 1879.

LISTERA, R. Brown.**687. L. ovata, Brown. Common Twayblade.**

Native; in damp woods, orchards, and moist bushy places; rarely in open peaty pastures. Common. May, June.

- c. I. Between Antony and Sheviock. Tideford. Wooded spot below Viverdon Down, on the south-east.
- II. Glen between Vernico and Pentillie; *Jour. R. Inst. Corn.* iii. 50. Pill, near Saltash. Between St. Mellion and Halton Quay.
- d. III. Between Knackersknowle and Tamerton Foliot, at Whitleigh, 1874. Maristow, in the lawn and by the road to Milton.
- IV. Plentiful at Saltram; *Keys, Fl.* iii. 231. Plym Valley. Bircham, Derriford, and Fursdon, Egg Buckland. Edge of the lawn at Newnham. In an open peaty pasture at Hemerdon, in considerable quantity, 1878.
- V. Wood at Yealmpton, near Yealm Bridge!; *Keys, ib.* Puslinch. Kitley. Wood below Lee Mill Bridge.
- VI. Ivybridge; *Keys, ib.* In plenty between Gutsford Bridge and the toll-gate; one plant with a third stem-leaf at about a couple of inches above the pair, growing on a hedge-bank by the hill beyond, May, 1875.

In 1875 I noticed plants at Gutsford that had one or more of their flowers entirely reversed, like *Malaxis*, and others partially so.

NEOTTIA, L.**688. N. Nidus-avis, Rich. Bird's-nest Orchis.**

Native; in very shady places in woods. Very rare. May, June.

- c. II. Pentillie; *Holmes, Keys, Fl.* iii. 232.

- d. IV. Common Wood, by the Plym, 1868; *Keys, ib.*
 V. Eight plants in a wood at Torr, near Yealmpton, June, 1868.
 One in a wood at Kitley, May, 1871; *Major Briggs.*
 First record: *Briggs*, in *Jour. Bot.*, 1868.

EPIPACTIS (Crantz), Rich.

- 689. E. latifolia, Auct.** *Broad-leaved Helleborine.*

- Native; in damp places in woodland valleys, and in waste bushy and shady spots about woods. Rather common. Latter part of July to September.
- c. I. Notter Bridge; *Gould.*, 1845, *Keys, Fl.* iii. 232!; 1878. Near Clapper Bridge; six or seven plants, 1874. Between Caracawn Cross and Hessenford. By the Torpoint and Liskeard Road, at Wacker Wood. Near Moditon Mill, by a wood on the Pillaton Road.
- II. St. Johns. Near Kingsmill.
- d. III. Tavy Valley, near Denham Bridge. Wood on the Beer side of the Tavy, between Lophill Ferry and Denham Bridge; only one plant seen, July, 1876.
- IV. Near Ubbaton, Bickleigh!; *Keys, Fl. ib.* Maidstone Wood, Plym Valley. Bickleigh Vale. Newnham.
- V. Lane leading from Cornwood Railway Station to Baccamoor, 1869; *Keys, ib.*; in that neighbourhood, 1872. Lee Mill Bridge, &c., in the Yealm Valley. Between Yealm Bridge and Ermington.
- VI. Near Flete. Near Modbury, and between Modbury and Ivybridge. Wood between Ivybridge and Worthill.
- Wherever this is found, it is mostly in small quantity.

E. palustris, Crantz. Near Plympton; *Gould.*, 1849; near Denham Bridge; *id.*, *Keys, Fl.* iii. 232. Error, probably, through *E. latifolia* being mistaken for it. Mr. Keys himself says that perhaps some of the stations that he has given under *palustris* belong to *latifolia*.

IRIDACEÆ.

IRIS, L.

- 690. I. fœtidissima, L.** *Fœtid Iris.*

- Native; on banks and in waste bushy or rocky places. Locally common. July.
- c. I. Abundant on the cliffs at Port Wrinkle. Polbathick. Hedges near Shillingham. Hedge-bank between the Saltash and Callington Road and Pillaton.

- II. Small wood near Cremil Passage House; *Banks*, *Fl.* part 3.
Maker; *Keys*, *Fl.* iii. 233. Trevol. Antony, abundant just above the Ferry House. Wilcove. Saltash. In plenty between Kingsmill and Landulph.
- D. III. Cremil Point; Hedges between Milehouse and Pennycomequick Hill!; *Banks*, *ib.* Sparingly on a hedge-bank at Prospect, Pennycross. Above Kinterbury Creek, and by the Tamar between that and Ernesettle. Warleigh. By the Tavy at Beer Ferrers.
- IV. Catdown Quarries!; *Banks*, *ib.* Saltram; Hoe; *Frean*, *Keys*, *Fl.* iii. 233; a small plant on the cliff at Tin Side, 1880. Frequent on the limestone beds between the Plym estuary and Elburton. Round House Lane near Lipson Terrace, and Lower Mount Gould. Hedge-bank between Colebrook and Newnham, 1863; perhaps now extinct.
- V. Wembury. Yealmpton.
- VI. Mothecombe!; *Keys*, *ib.* On the Kingston side of the Erme estuary. Sequers Bridge.

This plant prefers to grow in the warmest situations, showing a marked partiality for a limestone soil and spots near salt or brackish water. It seems to be entirely absent from the colder and granitic tracts.

First record: *Banks*, 1830.

691. I. *Pseudacorus*, L. *Yellow Water Iris.*

Native; in marshes, damp meadows, by rivers and streams. Very common. Part of May, June. Area general.

Occurs in Pennycomequick Valley, close to the town of Plymouth, and extends to the semi-moorland parishes. The common plant of the neighbourhood is var. *b. acoriformis*; possibly we have this only of the three varieties of *English Botany*, ed. 3.

In April, 1874, I was surprised to see some bullocks cropping off the upper portion of the leaves of this acrid plant in the Seaton Valley.

AMARYLLIDACEÆ.

NARCISSUS, L.

692. N. *Pseudo-narcissus*, L. *Common Daffodil; 'Lent Lily'; 'Lent Rosens.'*

Native, but probably only Denizen in some places; in copses, woods, on bushy hedge-banks, and especially in orchards. Common. Part of February, March, to part of April.

c. I. Orchard at Caracawn. In another at Trehan, St. Stephens. In

one near Moditon Mill ; in another, and elsewhere, at Notter. Leigh.

II. Orchard at Pill. Hedge-banks, Botus Fleming. In profusion on a hedge-bank as you ascend from Kingsmill towards Elbridge ; occurring also in an orchard at the latter place. Landulph. In and about an orchard between Penters Cross and St. Mellion. Hedge-bank near St. Dominick.

d. III. Between St. Budeaux and Tamerton Foliot, and in an orchard, with *N. incomparabilis*, between Budshead and Whitleigh. On a hedge-bank between Tamerton village and Postham farm ; on another, with *Galanthus*, between Tamerton village and the mill. In Maristow lawn, and abundantly in the valley between Maristow and Milton, but mostly in orchards. Damp wood a little above Lophill. Wooded spot, but not far from a house, near Double Water.

IV. Among copsewood on Derriford estate and in Canons Copse, Egg Buckland ; also in a damp wooded spot in the Plym Valley, and in orchards and on hedge-banks about Stoneybridge and at Frogmoor. In an orchard and on adjoining hedge-banks at Efford.

V. Fordbrook. Hareston. Elburton. In many places about Yealmp-ton. In this District, as in the others, mostly in or about orchards.

VI. In the South Hams in exceeding plenty : the orchards there are covered with this plant ; *Mr. Cornish, Polwh. Hist. Devonsh.* 86. Near Pamflete. Between Ermington and Yealm Bridge.

Looks rather a Denizen than Native at very many of its stations. Dr. Maton says he heard the odd name of ‘Gregories’ applied to this plant in the county of Devon ; at Frithelstoke, near Torrington. About Plymouth I have never heard the word, and think it must have been peculiar to the locality where he heard it. His words are, “In a pasture east of the church we found *N. Pseudo-narcissus* in vast profusion. The people of the village call these plants Gregories, a name that struck us on account of its coinciding with the appellation of the order to which the neighbouring monastery belonged” (*Canons of St. Gregory*) ; *Obs. on Western Counties*, ii. 55, 1797.

First record : *Polwhele*, 1797.

693. *N. biflorus*, Curt. *Two-flowered Narcissus* ; ‘*Whitsundays*.’ Denizen ; in orchards, and on hedge-banks either about them or near houses. Rather rare. Part of April, May.

c. I. In great quantity over a few yards in an orchard close to Caracawn farm-house, 1874. Rather sparingly on a hedge-bank below an orchard between Forder and Antony Passage, also a single

patch on the other side of the road, a little nearer the ferry, 1874. A small patch by an old grassy cartway near Trevollard, 1878.

- II. In an orchard and on a neighbouring hedge-bank at Kingsmill.
- d. III. Rather sparingly in an orchard at King's Tamerton. Quite sparingly, with the double-flowered form of *N. poeticus*, in an orchard near Burrington House, Pennycross. Hundreds of plants in flower in an orchard below Blaxton farm-house, May, 1864; nearly eradicated, from the orchard having been converted into arable land, 1871; still growing sparingly on an adjoining hedge-bank.
- IV. [In an orchard and] on a hedge-bank at Goosewell, Egg Buckland; *Phyt.* v. N.S. 371: orchard since converted into a field, and the *Narcissus* mostly destroyed. Orchard at Beauhayes, Egg Buckland, close to cottages.
- V. A patch on a hedge-bank by an orchard near Knighton village, 1873. A small patch in an orchard close to Yealmpton village, with *Petasites fragrans*, on a hedge-bank very near, 1876.
- VI. In a field on Pithill farm, Ivybridge, abundant, and to all appearance wild; *Keys, Fl.* iii. 234: occurs here in a pasture between the farm-house and a wood, extending sparingly into the wood, where it grows with *Vinca minor*, which plant also appears about the border of the pasture. I think the both derived from ancient cultivation.

N. major, L. The double variety of this, so common in gardens, is sometimes seen in orchards close to houses. It occurs in two at Elburton.

N. poeticus, L. Alien. The much-cultivated double variety grows in two orchards at Bickleigh, in profusion in one. It is as abundant as I have ever seen *biflorus* in any one locality. I have also seen it sparingly in an orchard at Burrington, occurring with *N. biflorus* and *Helleborus viridis*.

N. incomparabilis, Mill. Alien. Like the two preceding, an old garden plant. Scattered about a small orchard, with a few plants on a neighbouring hedge-bank, between Whitleigh and Budshead, 1875. Very sparingly on a hedge-bank at Fursdon, Egg Buckland, near where a cottage formerly stood.

“*Leucojum aestivum*, L.” Flete; *Banker*, 1849, *Keys, Fl.* iii. 235. Error. The Flete plant, by a specimen labelled as *Leucojum* in *Herb. Gould.*, was really *Allium triquetrum*, doubtless an introduction. The specimen was collected by Mr. Banker, on May 19th, 1849.

GALANTHUS, L.

694. *G. nivalis*, L. *Common Snowdrop.*

Denizen or Alien ; on hedge-banks about old houses and in orchards. Rather rare. Part of January, February.

- c. I. On a hedge-bank close to a farm-house at St. Stephens.
- II. On two hedge-banks, each by a vegetable garden, at the hamlet of Lower Tregantle ; in one case with *Tanacetum* and *Melissa* growing very near. A large patch on a hedge-bank by an orchard close to Hay farm-house, near Antony.
- d. III. Honicknowle, *Mr. C. Johns* ; Budshead, *Mr. Bone* ; Weston Mills ; *Banks, Fl.* part 1. Hedge-bank opposite an old farmhouse, near King's Tamerton. Some patches on a hedge-bank, the boundary evidently of an old garden-plot, close to a farmhouse at Burrington, Pennycross. Hedge-bank by an orchard near Tamerton Mill. On one below an orchard near an old house at Lophill. In abundance in a wood, and also in a few spots in its vicinity, near the grounds at Maristow ; evidently not indigenous.
- IV. Orchards about Meavy, *Rev. J. S. Tozer* ; plentiful in the meadows and hedges opposite the steward's house at Saltram ; *Banks, Fl. ib.* In profusion in an orchard, in which *Helleborus viridis* occurs, close to Hay farm, near Elburton, extending to a hedge-bank ; also on a hedge-bank opposite a farm-house by the road from Elburton to Plympton. Hedge-bank near Herdwick farm-house. Border of an orchard at Butlass.
- V. Orchards about Langdon Hall ; *Banks, ib.* ; grows there by a carriage drive towards the church. In abundance on a hedge-bank close to a farm-house near Brixton. Bank by an orchard, Torr, near Yealmpton. Small orchard near Lutton, &c., Cornwood.
- VI. A plant or two on a bank opposite Flete western lodge, growing near *Hypericum hircinum*. Some patches in an orchard at Ludbrook.

Clearly not an indigenous species.

DIOSCOREACEÆ.

TAMUS, L.

695. *T. communis*, L. *Black Briony.*

Native ; in hedges, copses, woods, and bushy places. Very common. Part of May to July, or later. Area general.

Occurs in the immediate neighbourhood of Plymouth, as between the town and Milehouse, and extends thence to the semi-moorland parishes, Cornwood, Buckland Monachorum, &c.

LILIACEÆ.

POLYGONATUM, *Tournef.*

696. P. multiflorum, All. *Common Solomon's Seal.*

Native ; in woods, and elsewhere as an introduction. Rare, and extremely local. May, June.

c. II. Harewood, near Calstock ; *Gould, Keys, Fl.* iii. 236. Introduced ?

d. III. Tamerton Foliot, *Mr. Brown* ; Manadon Wood ; *Banks, Fl.* part 2. Seen in the grounds near Manadon House.

IV. [Plymbridge, *Mr. Sconce* ; *Banks, ib.* Hedge-bank very near Forder farm-house, Egg Buckland ; destroyed some years ago.]

V. Scattered all over a large wood at Torr, on the left bank of the Yealm, growing with *Ranunculus auricomus*, *Lamium Galeobdolon*, *Allium ursinum*, &c. ; *Jour. Bot.* vi. 207. In Eastern Torrs Wood, above the right bank of the river. In a wood near Yealm Bridge, wild, 1871 ; *Keys, Fl.* iii. 236 ; probably Western Torrs Wood, where it grows in considerable quantity.

Apparently only indigenous in the woods on the limestone just around Yealmpton village.

CONVALLARIA, *L.*

697. C. majalis, L. *Lily of the Valley.*

Native ; in an elevated wood, on granite. Very rare. May.

d. IV. In an aboriginal wood at Shaugh, occurring in considerable quantity over about ten square yards, intermixed with *Vaccinium*, *Scabiosa succisa*, *Aira flexuosa*, *Pteris*, &c. Elevation, a little over 600 feet.

Discovered by Mr. Francis Brent, of Plymouth, in June, 1874.

Asparagus officinalis, L. Occasionally seen about gardens, sprung from the seed of cultivated plants.

RUSCUS, *L.*

698. R. aculeatus, L. *Common Butcher's Broom.*

Native ; on bushy banks and cliffs. Very rare. March, April.

c. II. A very thick patch for about two yards on a hedge-bank between Rame Church and Rame Head, near *Rosa spinosissima*, with which it is also associated in District vi. Hedge near Cargreen ; introduced.

d. III. About Tamerton Foliot, *Mr. Browne* ; Warleigh Woods ; *Banks, Fl.* part 1. Seen above the inlet at Tamerton Foliot, where it is perhaps an introduction, as it occurs in garden hedges in the same neighbourhood.

VI. On banks on the Kingston side of the Erme estuary ; also in considerable quantity in similar spots on the other side, between the Preventive Houses and Pamflete.

I purposely refrain from quoting some of the stations given by Banks for both this and the following species.

ORNITHOGALUM, L.

699. O. umbellatum, L. *Common Star-of-Bethlehem.*

Alien, established in a few places. Very rare. May.

- c. II. Orchard at Pill, near Saltash ; first found by *Mr. E. M. Holmes.* Very sparingly at the bottom of a hedge-bank between Saltash and St. Stephens, 1870.
- d. III. On an old hedge-bank by an orchard near Burrington farm-house.
- IV. Laira (an escape); *Keys, Fl. iii.* 237 ; seen there on the side of one of the embankments.

Always derived from gardens.

SCILLA, L.

700. S. autumnalis, L. *Autumnal Squill.*

Native ; in shallow turf soil above coast cliffs. Very rare. Part of July to September.

- d. V. In great plenty on a hill that overlooks Bigbury Bay, near a point called by the fishermen Grenore Point ; *Mr. Yonge, Polwh. Hist. Devonsh.* 86, 1797. In abundance in shallow soil on a rocky point at Gurrows Down, Revelstoke, 1873 ; also in dry turf places on the sea-bank near Worsewell, in the same parish, 1875.

Possibly the station quoted from Polwhele may be beyond the area altogether, and so not identical with either of the two at which I have seen the plant.

701. S. nutans, Sm. *Wood Hyacinth ; 'Blue Bell.'*

Native ; in woods, copses, hilly pastures, on hedge-banks, and in bushy waste places. Very common. April, May. Area general.

An abundant species, occurring very near the town of Plymouth, and growing in all kinds of soils. A variety with white flowers is rather frequent, and has been noted for all the Districts except ii. It will occur so intermixed with the others as to appear to prove that soil and situation do nothing in producing the variation. Six or eight plants with flowers of a delicate lilac near Lynham Lodge (District v.), 1866.

A plant with extremely long bracts, the lowest more than three times as long as the flower, between Gutsford and Orcherton (vi.), 1875. I have been favoured by Mr. Watson with a dried specimen showing a similar peculiarity.

ALLIUM, L.

702. A. vineale, L. *Crow Garlic.*

c. compactum.

Native; on dry banks, earth-capped walls, and in pastures and other turf-y places. Rather, though locally, common.

c. I. In plenty by the Crafthole Road, near St. Germans Beacon. Tideford.

II. About Torpoint, where I have rarely seen plants with a flower bud or two among the bulbules. Sparingly at Penhale, near St. Johns. Near Empacombe; one plant with two flower buds, 1875. Near Saltash. Cargeen.

d. III. [About twenty plants on a hedge-bank between Pennycomequick and Stoke Damerel, 1873; there until about 1879, when it was destroyed by building.] Edge of a low cliff between Millbay Docks and Winter Villa, Stonehouse, 1876. Near Pounds, and in Bladderley Lane, near Prospect. Above the western shore of Weston Mills Lake, and by the Plymouth and Saltash Road. Near Torr Grove. Blaxton. Maristow. Hedge-bank below Buckland Abbey. Beer Ferrers.

IV. Abundant in the lawn of Tothill House. Between Lipson Terrace and Lipson Vale. In plenty on one of the embankments by the Laira. Higher Compton. On the limestone about the Plym estuary. Radford. Wall between Billacombe and Plympton.

V. Border of a meadow by the tidal Yealm, below South Farm. Near Bridgend. Newton Ferrers. Wall-top in Yealmpton village.

VI. Cliff above Meadowfoot Cove, Mothecombe. On the lawn of a house at Penquit, between Ermington and Ivybridge.

I have arranged all our plants under var. *compactum*, though occasionally a plant may be seen here and there with one or two ill-developed flowers among the bulbules.

The species is scarcely more than sub-maritime, and is quite absent from the cold granitic and moorland tracts. By the coast near St. Germans Beacon it ascends to 450 feet.

703. A. oleraceum, L. *Field Garlic.*

var. *a. genuinum*.

Native; on bushy and grassy banks, earth-capped walls, and on the borders of fields. Rare, and extremely local. August, September.

d. IV. In many spots on limestone in the tract of country lying between Pomphlet, Plymstock, Elburton, and Plympton, as well as on a

wall near Oreston ; *Jour. Bot.* iv. 290. Here it occurs in several places by the Plymouth and Totnes Road, or in adjoining fields, as well as between Saltram and Billacombe, although in most of the spots it is in no great quantity. Limestone rubble-heaps near Laira Bridge ; *Holmes, Keys, Fl.* iii. 239.

This might almost go into the 'very rare' list.

First record : *Briggs*, 1866.

704. A. ursinum, L. Ramsons.

Native ; in damp woods, orchards, and on banks, especially in shady situations. Common. Latter part of April, May.

- c. I. Between Hessenford and the coast. Near Polbathick. Polscove. Between Trematon village and Trehan. Pillaton.
- II. Antony Wood ; *Jacob, Fl.* part 6. Saltash. Botus Fleming. Landulph. Penters Cross.
- d. III. Plentifully in Warleigh Wood ! ; *Jacob, ib.* Budshead. Tamerton Foliot. Tavy Valley.
- IV. Radford ! ; *Keys, S. D. Lit. Chron.* 241. Between Goosewell and Staddiscombe. Widey. Plympton. Bickleigh.
- V. About Yealmpton ! ; *Mr. J. C. Bellamy, Banks, ib.* Gorlofen. Wiverton. Between Ridgway and Ivybridge. Near Slade.
- VI. Near Pamflete. Kingston. Orcherton. Between Ermington and Ivybridge.

Said by Mr. Pascoe to be "a rare plant in Cornwall" (*Phyt.* ii. 942), but it is not so in the portion of it that constitutes Districts I. and II.

This plant is popularly supposed to impart a bad flavour to the milk of cows feeding on it.

NARTHECIUM, Huds.

705. N. ossifragum, Huds. Lancashire Asphodel.

Native ; in peaty bogs. Locally common. July, August.

- c. I. Viverdon Down. Bog below Hammet Down.
- II. Hingston Down ; *Mr. C. Johns, Banks, Fl.* iii. 240 ; in that neighbourhood, near Harrowbarrow, 1879.
- d. III. Double Water.
- IV. Opposite the Dewerstone, near Shaugh ; *Rev. Dr. Jacob, Banks, ib.* Bog on Derriford estate, Egg Buckland. Crownhill Down. Ringmoor Down.
- V. Near Cholwichtown. Bog below Hanger Down.
- VI. Near Ivybridge ! ; *Keys, Fl.* iii. 240. Dartmoor, about the valley of the Erme.

Found principally on the moors and commons.

First record : *Banks*, 1830.

JUNCACEÆ.

LUZULA, DC.

706. L. Forsteri, DC. *Narrow-leaved Hairy Woodrush.*

Native; on hedge-banks and in wooded places. Common, though somewhat locally so. April, May.

- c. I. Hessenford. Near Trematon. Saltash and Callington Road, near the Holland Inn. Lane between Notter and Moditon Mill.
- II. About Botus Fleming. Near Penters Cross.
- d. III. Ford Lane, near Devonport; Warleigh Wood; near Maristow; *Jacob, Fl. part 14.* Manadon Wood; *Keys, Fl. iii. 244.* Between Ford and Keyham farm, 1874. About Tamerton Foliot. In great plenty between Maristow and Milton. About Denham Bridge and Buckland Monachorum village.
- IV. Bickleigh Vale; Saltram Woods; *Keys, ib.* Between Plymstock and Elburton. About Plympton. Newnham, to 250 feet. Egg Buckland.
- V. Knighton. Battisborough. Newton Ferrers. In abundance about Fordbrook and Halwell, and growing elsewhere in Brixton parish. In abundance near Slade, and also between Combgate and Venton.
- VI. Abundant about Mothecombe, Pamflete, and Holbeton. Kings-ton. About Ermington.

The distribution of this plant does not support the assertion that it is partial to a calcareous soil. A growing plant of *L. Forsteri* can be distinguished from one of *L. pilosa* at a glance, especially in fruit, as all the capsules on a panicle of the former droop in *one* direction, whereas those of the latter spread in *all* directions. The figure of *Forsteri* in *English Botany* does not show this feature, and is altogether bad. A more or less abortive form, similar in character to the var. *Borreri* of *L. pilosa*, I have seen at Mothecombe.

First record: *Jacob*, 1836.

707. L. pilosa, Willd. *Broad-leaved Hairy Woodrush.*

Native; in woods, and on woodland and shady banks. Common. March to May.

- c. I. Seaton Valley. Sheviock. Clapper Bridge. Between Leigh and Moditon Mill.
- II. Near Saltash; *Keys, Fl. iii. 244.* Botus Fleming. Between St. Johns and Trelay. Between Ashland and Harrowbarrow. Cotehele.

- d. III. Manadon Wood. Near Budshead. Tamerton Foliot. Buckland Monachorum. Beer Ferrers.
- IV. Canons Copse, Egg Buckland. Plym Valley woods. Newnham. Bickleigh.
- V. Combgate. Near Slade.
- VI. Woods about Ivybridge; *Keys, ib.* Oldaport.

b. Borreri.

Rather rare.

- c. I. Seaton Valley, between Hessenford and the coast, with the type and *Forsteri*.
 - III. Between Maristow and Milton, and in the wood opposite Maristow. Near Denham Bridge.
 - IV. Rather plentiful about Plymbridge. Newnham. Wood in the lower part of Fancy Vale, associated with *pilosa* and *Forsteri*.
 - V. Lane near Slade; again with the two.
 - VI. Oldaport, with the two. Lane between Penquit and Modbury.
- L. pilosa* is more of a woodland plant than is *L. Forsteri*.

708. *L. sylvatica*, Beck. Great Woodrush.

Native; in shady or rocky woods and in bushy places. Common. April, May.

- a. I. Sheviock Wood. Notter Valley. Cutmere Hill.
- II. Harewood; *Keys, Fl.* iii. 244. Cliff on the eastern side of Millbrook Lake. Cotehele.
- III. Bank above Weston Mills Creek. Near Saltash Passage. Warleigh Woods. Woods of Tavy Valley.
- IV. Wood below Staddiscombe. Saltram Wood. Plym Valley. Chaddlewood. Hoomeavy.
- V. Between Yealm Ferry and Noss. Cornwood, and in the Yealm Valley between that and Dartmoor.
- VI. Woods around Ivybridge; *Keys, ib.* Copse by the Erme, below Efford. Flete. Between Penquit and Modbury. By the Erme, far out on Dartmoor.

709. *L. campestris*, Willd. Field Woodrush.

Native; on dry banks, in pastures and waste turf places. Very common. March to May, or later. Area general.

Found both in the enclosed parts and on the open commons.

710. *L. multiflora*, Lej. Many-headed Woodrush.

Native; in peaty bogs, marshy spots, and other damp places in meadows and on commons. Common. May to August, or later.

- c. I. In a woodland swamp between Seaton and Treloy. Between Denabole and Sheviock. Notter Valley; and by a tributary between St. Mellion and Pillaton. Viverdon Down.
- II. Damp spot by a roadside near St. Johns, 1869.
- d. III. Manadon Wood; *Keys, Phyt.* iii. 1022. Roborough. Tavy Valley.
- IV. Shalaford, Coleridge, and Derriford, Egg Buckland. Fancy Vale. Hemerdon (*congesta*). Near Lovaton (*umbellata* and *congesta*), Dartmoor.
- V. By Ashcombe Hill, near Puslinch. Near Fardel. Boggy flat below Pen Beacon (*congesta*).
- VI. Between Penquit and Modbury. Hanger Down (*congesta*).

L. albida, DC. Alien. On the bank of the Tavistock Railway, near Shaugh Bridge, 1874. Doubtless introduced with grass seeds.

JUNCUS, L.

711. *J. maritimus*, Sm. Lesser Sea Rush.

Native; in muddy places by salt water inlets and tidal rivers, on the coast and in salt marshes. Rather common. August, September.

- c. I. By Denabole Lake. By Wivelscombe Lake.
- II. Rame Head!; *Keys, Fl.* iii. 240. In plenty by St. Johns Lake.
- d. III. Common by the tidal waters of the Tamar and Tavy estuaries, occurring up to Holes Hole and near Lophill.
- V. On low damp coast rocks at Revelstoke. On Wadham Rocks, by Bigbury Bay.
- VI. In marshy land at Oldaport, near the Erme estuary.

No record for District iv., as it has never been seen about the Plym estuary.

712. *J. conglomeratus*, L. Common Rush.

Native; in bogs, marshes, and damp places by roadsides, &c. Very common. June. Area general.

Occurs within a few miles of Plymouth; at Honicknowle (District III.); Poole, Egg Buckland (iv.), &c. It passes out of flower and ripens its fruit earlier than *J. effusus*. The stems are more striated.

713. *J. effusus*, L. Soft Rush.

Native; in damp meadows, marshes, bogs, wet or swampy places. Very common. July. Area general.

Undoubtedly the commonest and most generally diffused of the perennial *Junci*. The annual *J. bufonius* may be as frequent.

714. *J. glaucus*, Sibth. Hard Rush.

Native; in marshes and damp places by roadsides. Rare and local. June.

D. III. Marsh, Ernesettle, 1873.

IV. Chelson Meadow! ; *Keys, Fl.* iii. 241. Lane between Elburton and Plympton, in plenty. In the old limestone quarry at Gore. A few plants about the road by the canal, a little below Cann Quarry, 1870.

V. Sparingly between Brixton and Plympton, 1871.

VI. Flete.

The absence of this common British species from the two Cornish Districts and its general paucity in the area are remarkable facts.

715. *J. acutiflorus*, Ehrh. Sharp-flowered Rush.

Native; in boggy meadows, damp peaty and swampy places.

Very common. August, September, or later. Area general.

An abundant species of the peaty meadows and damp pastures of the wilder tracts. In the country nearer Plymouth occurring in a field near Beaconsfield, Pennycross (District iv.); at many places in Egg Buckland parish (iv.), &c.

716. *J. lamprocarpus*, Ehrh. Shiny-fruited Rush.

Native; by streams, rills, and in other wet or damp places. Very common. June to September, or later. Area general.

Grows at Ford, between Tothill and Laira, and elsewhere near the town of Plymouth. A frequent plant by the roadside drains.

717. *J. supinus*, Mœnch. Lesser Jointed Rush.

Native; by rills and ponds, also in and by the water of ditches and peaty pools. Common. June to October.

c. I. Notter Valley. Vale between St. Mellion and Pillaton. Seaton Valley. Viverdon Down.

II. Near Hatt. Below Kit Hill.

D. III. Roborough Down; *Keys, Fl.* iii. 242. By the Devonport leat at Pennycross. Tavy Valley. Beer Ferrers.

IV. Moor above Shaugh; *Brent, Keys, ib.* Derriford, Common Wood, &c., Egg Buckland.

V. Green at Westlake. Between Cornwood and Dartmoor.

VI. Ivybridge; *Keys, ib.* In the Erme Valley on Dartmoor.

b. Kochii.

D. VI. In a bog, Ivybridge; *Mr. Keys, Bab. Man.* 341, ed. 4, 1856, et seq. Earlier? "I discovered this in 1848." *Keys, Fl.* iii. 243.

In 1871 Mr. Baker and I found a form with six stamens at Common Wood (District iv.), which may be similar.

This species is most frequent in the wilder and moory tracts..

718. *J. bufonius*, L. *Toad Rush.*

Native ; in damp sandy, muddy, or peaty places by rills, pools, or pits ; in waste spots where water settles, and in moist clayey fields. Very common. Area general.

By roadside drains close to the town of Plymouth, over the enclosed country, on the open commons and on Dartmoor.

719. *J. Gerardi*, Lois. *Mud Rush.*

Native ; in marshes and damp spots about salt water inlets and tidal rivers. Very common. June. Area maritime.

- c. I. Denabole. Tideford.
- II. Between Torpoint and St. Johns ; *Keys, Fl.* iii. 243. By Whit-sand Bay. By Millbrook Lake. Cargreen. Cotehele.
- d. III. Keyham, 1845 ; *Keys, ib.* By Weston Mill Lake. Blaxton.
- IV. On the coast between Bovisand and Heybrook.
- V. Shore below Revelstoke Church.
- VI. Efford, and near Cling Mill.

The common Rush of the salt marshes and drier parts of the mud-flats of the tidal inlets.

720. *J. squarrosum*, L. *Heath Rush.*

Native ; on moors and commons. Locally common. June.

- c. I. Viverdon Down.
- d. III. Very sparingly on Roborough Down. Plaster Down.
- IV. Waste piece of land in an enclosure by Roborough Down, near Leeford. Ringmoor Down. Sheepstor. Between Shaugh and Cadover Bridge.
- V. Cornwood ; Dartmoor ! ; *Keys, Fl.* iii. 243. Crownhill Down.
- VI. Hanger Down. Erme Valley, near Ivybridge, and on Dartmoor.

J. diffusus, Hoppe. “Calstock, 1863 : I record this locality with misgivings, as I do not possess a specimen to refer to.” *Keys, Fl.* iii. 241.

C Y P E R A C E Æ.

RHYNCHOSPORA, Vahl.

721. *R. alba*, Vahl. *White Beak-Sedge.*

Native ; in peaty bogs and swamps on moors and commons. Rather, though locally, common. July to September.

- c. I. Viverdon Down. Pillaton Down.
- d. III. Near the Virtuous Lady Mine ; *Phyt.* vi. 354.
- IV. Bog below Lethitor ; *ib.* On Dartmoor, near Shaugh.

V. Between Blackford and Dartmoor. Cholwichtown. Torch Moor (Tolchmoor); var. *b. sordida*, Boswell-Syme, *Eng. Bot.* x. 47; J. Bunker, 1850, specimen, *Herb. Gould*. This Tolchmoor station may belong to District iv.

This plant perpetuates itself by forming in the autumn rootless semi-bulbous offsets within the sheaths at the base of the stems of the year.

SCIRPUS, L.

722. *S. palustris*, L. Marsh Club-rush.

Native; in boggy, swampy, and damp sandy places, and about ponds and pools. Common. May to July, or later.

- c. I. Above a cliff near Port Wrinkle. Seaton Valley. Near Shillingham. Sheviock. Tideford.
- II. St. Johns. Near Carkeel. Cotehele and Calstock.
- d. III. Vale at Honicknowle. Above Kinterbury Creek. Below Warleigh Wood. Blaxton. Tavy Valley.
- IV. Chelson Meadow, in the ditches; *Keys, S. D. Lit. Chron.* 351. Between Goosewell and Staddiscombe. Fursdon, Bircham, and Leigham, Egg Buckland. Pit on Roborough Down.
- V. In the bog on the green at Westlake.
- VI. By Bigbury Bay. Between Flete and Mothecombe. Near Cling Mill.

723. *S. multicaulis*, Sm. Many-stemmed Club-rush.

Native; in peaty bogs, and in damp or wet places on moors and commons. Locally common. May to September.

- c. I. Viverdon Down. Pillaton Down. Between Pillaton and St. Mellion.
- II. Bogs below Kit Hill, near Harrowbarrow, 1879.
- d. III. Double Water.
- IV. Bog on Derriford estate, Egg Buckland. Lethitor, &c., Dartmoor.
- V. Near Cornwood. Enclosure below Hanger Down.
- VI. Bog near Ivybridge railway viaduct; *Keys, Fl.* iii. 253; seen in that neighbourhood.

724. *S. cæspitosus*, L. Scaly-stemmed Club-rush.

Native; in damp places on moors and commons. Locally common. May, June.

- c. I. In plenty in the swampy depression on Viverdon Down.
- II. Bogs below Kit Hill, near Harrowbarrow, 1879.
- d. IV. Dartmoor, near Shaugh Bridge, &c.; *Jacob, Fl.* part 17. Crownhill Down. Hemerdon.
- V. Dartmoor, near Cornwood. Cholwichtown.
- VI. In boggy ground near Staddon Barrow, on Dartmoor.

First record: *Jacob*, 1836.

725. *S. fluitans*, L. *Floating Club-rush.*

Native ; in rivers, streams, and ponds. Rather common. Part of May to October.

- c. I. In streams and pools on Viverdon Down.
- d. III. Banks of the Walkem, between Horrabridge and Virtuous Lady Mine ; *Keys*, *Fl.* iii. 255. Pond at Blaxton. Roborough Down.
- IV. Derriford, Egg Buckland. Meavy river, near Sheepstor Bridge ; *Phyt.* vi. 353. Near the source of Torey Brook, Dartmoor.
- V. Crownhill Down.
- VI. Erme, near Ivybridge ; *Banker*, 1850, *Keys*, *Fl.* iii. 255 ; seen between Ivybridge and Harford ; also in the Erme Valley, on Dartmoor. Hanger Down.

726. *S. Savii*, S. and M. *Savi's Club-rush.*

Native ; in wet, damp turf or peaty spots, and about springs. Locally common. June to October.

- c. I. Port Wrinkle and Downderry. Seaton. Polbathick. Damp meadow between Landrake and Tideford Cross. On Viverdon Down in abundance, with var. *b. monostachys*.
- II. Rame Head, in a wet place west of the promontory, 1871 ; *Keys*, *Fl.* iii. 255. Tregantle, above the coast near the fort, and at the hamlet. St. Johns, in plenty. Kingsmill.
- d. III. Keyham, 1852 ; *Herb. Gould*. Between Boldventure and Ham. By Tamerton Lake. Blaxton Creek.
- IV. In their wet grounds at Plimmouth ; *Park. Theat. Botan.* 1271, figure p. 1270 (possibly *S. setaceus*). (See remarks under *Sketch of Progress of Botanical Investigation*, in the *Introduction*.) Bovisand, 1850 ; specimen, *Herb. Gould*. Coleridge, Derriford, and Poole Hill, Egg Buckland. Bickleigh Vale.
- V. By the coast above Bigbury Bay ; near Lambside, also at Revelstoke, where *b. monostachys* occurs.
- VI. By the coast between Kingston and Ringmore. In a damp meadow at Oldaport.

A very frequent species about the coast and near tidal waters, but, as will be seen by the stations named, occurring in inland situations, miles from salt water, in Districts i. and iv. On Viverdon Down it ascends to about 500 feet.

727. *S. setaceus*, L. *Bristle-like Club-rush.*

Native ; in damp sandy, muddy, or peaty places ; by streams and roadside rills. Very common. June to October. Area general.

- c. I. Sheviock ! ; *Brent, Keys*, *Fl.* iii. 255. Landrake. Viverdon Down.

- II. About St. Johns. By the Saltash and Callington Road, near Carkeel. Between Callington and Gunnislake.
- c. III. Plymouth and Saltash Road. Budshead. Between Beer Alston and Calstock Ferry. Roborough Down. Plaster Down.
- IV. Banks of the Meavy ; *Keys, Fl. ib.* Bovisand. Chelson Meadow. Coleridge, Derriford, and Common Wood, Egg Buckland.
- V. Cornwood ; Cadleigh ; *Keys, ib.* Between Yealmpton and Collaford. Green at Westlake.
- VI. Ivybridge ! ; *Keys, ib.* Marsh between Mothecombe and Flete. Harford.

728. S. Tabernæmontani, Gmel. *Glaucous Bulrush.*

Native ; in wet spots and about ditches or drains in salt marshes, and on mud-banks by tidal rivers. Rather common. Part of June, July.

- c. I. In a little creek by Polbathick Lake, 1878.
- II. Marsh at St. Johns. By the Tamar, near Calstock.
- d. III. In a marsh by the Tavy, opposite Lophill. Blaxton Marsh.
- IV. Chelson Meadow. By the Plym, a little below Longbridge, 1878.
- VI. In abundance in a drain in marshes between the tidal inlet by Cling Mill and Orcherton ; also between Mothecombe and Flete.

729. S. carinatus, Sm. *Trigonous-stemmed Bullrush.*

Native ; on mud-banks and in wet spots in marshes by a tidal river. Very rare and local. August, September.

- c. II. In many spots on the muddy bank of the Tamar, and in wet places in adjoining marshes, near Calstock. Discovered here by Mr. Ralfe, of Penzance, in 1875.
- d. III. On the muddy left bank of the Tamar ; seen in two places near Gawton Quay, September, 1875. At Tuckermarsh Quay, lower down the river, between Gawton and the ferry to Calstock.

Unsatisfactory as a species ; for whilst it sometimes has stems bluntly trigonous for nearly their whole length, in other cases they are round from two or three inches below the panicle ; they vary in shape even on the same root, the small stems, as a rule, being more conspicuously trigonous than the larger.

730. S. triquetus, L. *Three-edged Bullrush.*

Native ; on the muddy banks of a tidal river. Very rare and local. September.

- c. II. Muddy bank of the Tamar, near Calstock ; *Bab. Man.* 361, ed. 5, 1862. "I found *Scirpus triquetus*, L., in July, 1857, growing

most copiously on a mud-bank about a mile, or rather less, on the Calstock side of the Tamar, beyond Calstock, just opposite to the rocks of Morwellham ;” *Mr. C. Prentice*, in *Jour. Bot.* i. N.S. 45, 46, 1872. In plenty in two places between Harewood and Calstock, within the distance named by Mr. Prentice ; September, 1875.

- d. III. Plentifully and in several spots on the muddy left bank of the Tamar ; at Gawton Quay, also at Tuckermarsh Quay, and elsewhere between Gawton and the Beer and Calstock ferry ; found here in September, 1875.

First record : *Babington*, 1862 ; through a communication from *Mr. Prentice*.

731. S. maritimus, L. Sea Club-rush.

Native ; in salt marshes, on the coast, and about river estuaries and other tidal waters. Common. June, July.

- c. I. St. Germans ; between Trematon Castle and Antony Passage ; *Keys, Fl.* iii. 253. Seaton. By Denabole Lake. Below Rett Wood, St. Stephens. Tideford.
 II. At the end of St. Johns Lake, plentiful ; *Jacob, Fl.* part 16. By Whitsand Bay. Cotehele, and between that and Weir Head.
 d. III. Near Maristow ; *Jacob, ib.* Keyham, 1850 ; *Keys, Fl.* iii. 253. By Weston Mills Lake. Kinterbury. Tamerton Foliot. Blaxton. On the Beer side of the Tavy.
 IV. Chelson Meadow ; *Keys, ib.* Sparingly on damp rocks by the coast a little west of the cove at Heybrook. By the Plym estuary, a little below Longbridge, 1878.
 V. On the shore below the church at Revelstoke. Kitley.
 VI. Efford. Marsh near Cling Mill.

First record : *Jacob*, 1836.

732. S. sylvaticus, L. Wood Club-rush.

Native ; in damp or wet places in river valleys. Very rare. June.

- c. I. In sandy soil by the Notter, near Notter Bridge ; *Jour. Bot.* iii. 351.
 II. Plentifully at the Weir Head ; *Jacob, Fl.* part 16.
 d. III. By a pond from the Tavy, a quarter of a mile above Lophill ; in a damp place in a meadow between that and Denham Bridge, in plenty, 1875 ; also in a large patch in a marsh on the Beer side of the river, and less plentifully about a drain in another spot, 1876.
 IV. Banks of the Mew, near the Weir Gate ; *Fl. Dev.* 9. Extinct ?
 First record : *Jones and Kingston*, 1829.

S. lacustris, L. In the river Plym; *Fl. Dev.* 8. Near St. Johns; *Jacob*, *Fl.* part 16. There is little doubt but that *S. Tabernæmontani*, which occurs in both the localities, was considered to be this.

ERIOPHORUM, L.

733. *E. vaginatum*, L. *Hare's-tail Cotton Grass.*

- Native; in bogs and swamps on moors and commons. Locally common. May.
- d. IV. On Dartmoor; *Mr. E. Forster, Bot. Guide*, 196; there near Cadover Bridge, in some places intermixed with *E. angustifolium*.
 - V. Crownhill Down. Near Cholwichtown. Swamp on Dartmoor, near the source of Broadall Brook.
 - VI. Ivybridge; *Keys, Fl.* iii. 256. On Dartmoor, near Staddon Barrow.

734. *E. angustifolium*, Roth. *Common Cotton Grass.*

- Native; in bogs and swamps. Common. Part of April, May.
- c. I. In swamps in the Seaton Valley, growing scarcely above sea-level. Viverdon Down. Pillaton Down.
 - II. Bog in a vale below Hingston Down, near Harrowbarrow.
 - d. III. Bog in the Walkham Valley, between Horrabridge and Grenofen.
 - IV. Bog on Derriford estate, Egg Buckland. Roborough Down. Dartmoor.
 - V. Crownhill Down. Near Cholwichtown. Dartmoor, near the source of Broadall Brook.
 - VI. Erme Valley, between Ivybridge and Harford.
- Entirely extirpated from extensive tracts by cultivation and drainage.

CAREX, L.

735. *C. pulicaris*, L. *Flea Sedge.*

- Native; in waste heathy or boggy spots and on commons. Common. May, June.
- c. I. Swamp in a wood between Seaton and Treloy farm-house. Bank by Wacker Wood. In the heathy ground about Clapper Bridge. Viverdon Down. Near Quethiock.
 - II. St. Johns; *Hore, Keys, Fl.* iii. 257; in a rough pasture, 1873. Furzy ground about Vernico Down. Bog below Hingston Down.
 - d. III. Roborough Down. Vale below Inchers.
 - IV. On limestone near Elburton. Derriford and Coleridge, Egg Buckland. In both furzy and marshy ground near Cann Plantation.

- V. In heathy enclosures from Crownhill Down. Near Cholwichtown.
Between Cornwood and Pen Beacon.
- VI. Ivybridge; *Holmes, Keys, ib.* Between Ivybridge and Harford.

736. C. arenaria, L. Sea Sedge.

Native; on sand-banks by estuaries and on the coast. Rather rare. May.

- c. I. Seaton Sands.
- II. Whitsand Bay; *Hore, Keys, Fl. iii. 257*; seen there near Rame Head.
- d. VI. Mothecombe, at Meadowfoot Cove and on the eastern side of the estuary; also by Bigbury Bay, below Kingston and Ringmore.

737. C. paniculata, L. Greater Paniced Sedge.

Native; in marshy places and in woodland swamps and bogs. Common. May to July, or later.

- c. I. Between Seaton and Hessenford. Clapper Bridge. Cutcrew.
- II. Mount Edgcumbe; *Frean, Keys, Fl. iii. 259.* Near Millbrook. Between St. Johns and Lower Tregantle. Pill. Kingsmill. Between St. Mellion and Halton Quay.
- d. III. Looseleigh!; *Brent, Keys, ib.* Kinterbury. Warleigh, &c., Tamerton Foliot. Tavy Valley.
- IV. Plymbridge; *Hore*; Bickleigh; *Keys, ib.* Egg Buckland meadows, and elsewhere in that parish.
- V. Damp place on the sea-bank at Revelstoke. Between Lambside and Preston. Field between Knighton and Staddiscombe. Near Cholwichtown.
- VI. Ivybridge; *Keys, Fl. ib.* Kingston.

738. C. vulpina, L. Great Sedge.

Native; about springs by the coast, in marshes and other damp places, especially near salt or brackish water. Common. May to September.

- c. I. By the Notter at Sheviock. Tideford. Between Saltash and Carkeel.
- II. Between Torpoint and St. Johns; Calstock; *Keys, Fl. iii. 258.* Whitsand Bay. Antony. Kingsmill.
- d. III. Manadon Wood; specimen, *Herb. Gould.* Waste ground by the railway in front of Halwell Place, Plymouth, 1879. Trench of the fortifications, Devonport. By Stonehouse Mill Pond, at Deadlake. Tamerton Foliot. Beer Ferrers.
- IV. By the coast at Heybrook. In the neighbourhood of the tidal waters of the Plym estuary. Between Elburton and Plympton.
- V. Shore between Bovisand and Wembury. Revelstoke. Wadham, &c., by Bigbury Bay. Yealmpton.

VI. By the tidal waters of the Erme ; near Efford, at Orcherton, and between this and Cling Mill.

Very frequent in the neighbourhood of tidal waters, and submaritime in distribution.

739. *C. muricata*, L. *Greater Prickly Sedge.*

Native ; on dry banks and in waste turfey places. Very common.

May to July, or later. Area general.

Noted from between Pennycomequick and Milehouse, near Laira, and elsewhere not far from the town of Plymouth. Extends to the moorland tracts, and is one of the commonest species.

740. *C. divulsa*, Good. *Grey Sedge.*

Native ; on banks in both open and shaded situations. Rather common. May to July, or later.

- c. I. Tregantle ; *Brent, Keys, Fl.* iii. 258 ; on the right of the road as you go from Antony village to this place. Between St. Winnolls and Tredrossel.
 - II. Millbrook ; *id. et. ib.* ; seen in that neighbourhood between the church and the schools, and elsewhere ; also near Cawsand. In plenty between Cremyll and Maker.
 - d. III. Between Woodlands Fort and Knackersknowle. By the Plymouth and Tavistock Road at Derriford.
 - IV. [Lipson ! ; *Frean*, 1868] ; Efford Lane ; Bickleigh Vale ; Laira ; *Keys, S. D. Lit. Chron.* 351, and *Fl. ib.* : destroyed at Lipson about 1875. In abundance near Elburton. Staddon. Near Oreston and Radford. Higher Compton. Egg Buckland, in many places. Plympton St. Mary. Lane at Bottle Hill.
 - V. Between Plymstock and Wembury. Newton Ferrers, in several places. Lanes near Halwell. Brixton, by the turnpike road. Near Weston Mill.
 - VI. Between Battisborough Cross and Mothecombe. Between Kingston and Ringmore, and elsewhere about Kingston. Near Efford. Modbury.
- Not frequent in Districts I., II., and III.

741. *C. stellulata*, Good. *Little Prickly Sedge.*

Native ; in bogs and wet marshy places. Common. May to September.

- c. I. Between Seaton and Treloy. Vivardon Down. Pillaton Down, and elsewhere near Pillaton village.
- II. Bog in a vale below Hingston Down.
- d. III. Roborough Down ; *Keys, Fl.* iii. 260. Honicknowle, and by the Devonport leat at Pennycross. Tamerton Foliot. Beer Ferrers. Plaster Down.

- IV. Plymstock ; Bickleigh ; *Keys, ib.* Derriford, Common Wood, &c.,
Egg Buckland. Sheepstor. Dartmoor.
V. Green at Westlake. Near Fardel. Crownhill Down.
VI. Between Ivybridge and Harford, and on Dartmoor.
Very common in some of the wilder tracts.

742. *C. remota*, L. *Distant-spiked Sedge.*

Native ; on damp banks by pools, ditches, and streams ; especially in shady or partially wooded places. Very common.
Part of May to July.

- c. I. Tregantle ; *Brent, Keys, Fl.* iii. 260. Sheviock. Tideford. St. Stephens. Pillaton. Cutmere.
II. Millbrook ; *id. et. ib.* Torpoint. St. Johns. Near Saltash.
d. III. Pennycross ; *Brent* ; Manadon Wood ; *Holmes, Keys, Fl.* iii. 259. Ford Lane, Stoke Damerel. Kinterbury. Tamerton Foliot. Beer Ferrers.
IV. Chelson Meadow ; *Keys, S. D. Lit. Chron.* 351. Bovisand Lane. Lipson. Between Saltram and Elburton. Egg Buckland.
V. Between Lambside and Preston. Brixton.
VI. Kingston. Holbeton. Modbury, and between that and Ivybridge.

? 743. *C. axillaris*, Good. *Axillary Sedge.*

Native ; in a damp place by a tidal inlet. Very rare. June, July, or later.

- d. III. A rather large tuft, best answering in general appearance to *C. axillaris*, in a damp spot by Weston Mills Lake, with *C. vulpina* and *C. remota*, between which species it looks intermediate, 1879.

744. *C. Boenninghauseniana*, Weihe. *Bönningshausen's Sedge.*

Native ; by the side of a drain below a hedge-bank. Very rare. June to August.

- d. VI. A single large tuft, apparently from one root-stock, at the side of a drain in a field near Caton, Ermington ; growing close to *C. remota*.

I refrain from quoting the station given doubtfully as for this in Keys's *Flora*, as I have seen a dried specimen of *C. vulpina*, "Keyham, 1852," misnamed *Boenninghauseniana*.

745. *C. ovalis*, Good. *Oval-spiked Sedge.*

Native ; in damp turf-y places by roadsides, on commons, in meadows and pastures. Common. May, June.

- c. I. Between Mount Edgcumbe and Crafthole ! ; *Brent, Keys, Fl.* iii. 260. Seaton Valley. Notter Valley. Near Shillingham.

- II. Near Tregantle. St. Johns. Saltash and Callington Road. St. Mellion.
- d. III. Woodlands. Maristow. Tamerton Foliot. Holes Hole.
- IV. Shaugh; *Holmes, Keys, ib.* Egg Buckland. Roborough Down. Lovaton.
- V. Green at Westlake. Between Plymstock and Wembury. Border of Dartmoor, near Cholwichtown.
- VI. Near Ivybridge; *Keys, ib.* Near Mothecombe. Harford.

746. C. vulgaris, Fries. Common Sedge.

Native; in bogs, wet and swampy places. Common. Part of April, May.

- c. I. Seaton Valley. Notter Valley. Tideford. Viverdon Down.
- II. Marsh by St. Johns Lake. Near Carkeel. Calstock.
- d. III. Honicknowle. Tamerton Foliot. Walkham Valley.
- IV. Near Bickleigh; Shaugh; *Brent, Keys, Fl. iii.* 261. Fursdon, Common Wood, &c., Egg Buckland. Hemerdon. Wigvor Down.
- V. Dartmoor!; *Brent, id. et. ib.* Spring on the sea-bank at Revelstoke. Crownhill Down.
- VI. By Bigbury Bay, below Kingston. Hanger Down. Near Erme Pound, Dartmoor.

747. C. glauca, Scop. Glaucous Heath Sedge.

Native; on dry banks, limestone rubble-heaps, in pastures, and boggy or damp turf spots. Very common. Latter part of April to June. Area general.

Probably the commonest species of the genus. It occurs on the Hoe, a little east of Tin Side, and here was mistaken for *C. precox* by the late Mr. Bunker. It is remarkable for occurring in very different kinds of places, wet and dry. Near Trelay (District II.) the variety *Michelianæ*, Sm., or a form near it; near Puslinch (v.), in 1868, one with the lowest female spike shortly stalked, the rest sessile.

748. C. montana, L. Mountain Sedge.

Native; on heathy commons. Rare, and extremely local. April.

- d. III. Roborough Down, to the left of the road from Plymouth to Tavistock, growing plentifully in numerous spots, from near the old camp on to near the northern extremity of the down, above Horrabridge; ascending to the highest part, about 650 feet above sea-level.
- IV. Roborough Down, to the right of the Tavistock Road, near the seventh milestone from Plymouth; and here and there by the Meavy Road. [Bickleigh Down; scattered over a considerable

portion of this common (several acres), and associated with its allies, *C. pilulifera* and *C. præcox*, as well as with *Polygala*, *Viola lactea*, *Serratula*, *Agrostis setacea*, &c., ascending here to about 540 feet, 1873; destroyed by the cultivation of the down about 1878.] A patch or two in a strip of waste ground between Bickleigh and Roborough, being a remnant of Bickleigh Down.

One of the earliest *Carices* to flower. By the third week in June I have found the seeds all shed and the spikes withered; but the large patches formed by its tufts of light green leaves and its thick shaggy rhizome serve, when flowers and seeds are gone, to distinguish it from its associates, *C. pilulifera* and *C. præcox*.

First record: *Briggs*, in *Jour. Bot.* ii. N.S. 172, 73, 1873; also first for Devon.

749. *C. pilulifera*, L. *Round-headed Sedge.*

Native; on heathy commons and moors, in dry waste turf or woody places. Common. April, May.

- c. I. Polbathick. Between Clapper Bridge and Pillaton Down. Viverdon Down.
- II. Wear, Maker; *Keys*, *Fl.* iii. 262. Furzy ground by roadsides near Vernico Down. Cotehele Wood.
- d. III. Roborough Down. Between Maristow and Milton. Between Denham Bridge and Beer Alston.
- IV. Saltram; Shaugh; *Brent*, *id. et. ib.* Derriford, and near Thornbury, Egg Buckland. Hemerdon. Ringmoor Down, and elsewhere on Dartmoor.
- V. Crownhill Down. Near Cholwichtown.
- VI. Between Kingston village and Bigbury Bay. Hanger Down. Dartmoor, near Harford.

Very frequent in the unenclosed portions of country. It may be seen on the driest parts of the commons.

750. *C. præcox*, Jacq. *Vernal Sedge.*

Native; on dry banks, moors, commons, and in turf spots. Very common. April, May. Area general.

Occurs at Mount Batten, and elsewhere on the dry limestone near Plymouth, as well as on the cold granitic soil of Dartmoor.

751. *C. pallescens*, L. *Pale Sedge.*

Native; in damp or peaty places in meadows, and in moist bushy places. Rather rare, but widely distributed. May, June.

- c. I. About half-a-dozen plants in a damp wooded spot by a stream a short distance below Viverdon Down, on the south-east, 1878.

- d. III. Manadon Wood, 1850 ; *Keys, Fl.* iii. 261. Budshead, in the vale below St. Budeaux village. In plenty in a meadow near Horrabridge, by the road to Tavistock. [Postham, Tamerton Foliot, 1868 ; since destroyed by cultivation.]
- IV. Fursdon and Derriford, Egg Buckland. Upperton, Bickleigh.
- V. A single plant at the bottom of a hedge-bank in a lane near Cadleigh, 1874. In a rushy meadow near Cholwichtown. In the lawn at Blachford, Cornwood.
- VI. Near Ivybridge ; *Keys, ib.* Two or three plants in a marsh by the turnpike road between that and Cadleigh, 1878.

752. C. panicea, L. Pink-leaved Sedge.

Native ; in damp or boggy spots on heaths, in pastures and turf-y places. Common. May, June.

- c. I. Between Seaton and Treloy. Viverdon Down.
- II. Marsh by St. Johns Lake. Near Hatt. Waste ground about Vernico Down.
- d. III. Near Honicknowle. Tamerton Foliot. Double Water. Beer Ferrers.
- IV. Shaugh ; *Keys, Fl.* iii. 261. Derriford and Coleridge, Egg Buckland. Hemerdon. Sheepstor. Ringmoor Down, and elsewhere on Dartmoor.
- V. Damp place on the sea-bank at Revelstoke. Westlake Green. Near Stretchley. Near Cholwichtown.
- VI. Ivybridge ; *Keys, ib.* Hanger Down. Erme Valley ; between Ivybridge and Harford, and on Dartmoor.

But for having been banished from extensive tracts by drainage and cultivation this would have gone into the 'very common' list.

753. C. pendula, Huds. Great Pendulous Sedge.

Native ; in damp wooded or shaded places, by ponds, and on river banks. Rare and local. Latter part of April, early part of May.

- c. II. Penlee Wood, near Cawsand ! ; *Brent, Keys, Fl.* iii. 262 : possibly not a Native in the plantation here.
- d. IV. Bovisand ; *Frean, Keys, ib.*
- V. In various spots in the Yealm Valley, between Yealm Bridge and Kitley Quay, also at Yeo, a little above the former place.
- VI. A large tuft on a damp hedge-bank near Orcherton, 1875. Between Sequers Bridge and Ermington village.

754. C. sylvatica, Huds. Pendulous Wood Sedge.

Native ; on damp banks by lanes, and in other moist shady or wooded places. Common. May, June.

- c. I. Between Tregantle and Antony. Sheviock. Between Latchbrook and Notter Bridge. Near Tideford Cross.
- II. Saltash and Callington Road. Botus Fleming. Cotehele.
- d. III. Manadon Wood ; Maristow ; *Keys, ib.* Tamerton Foliot. Beer Ferrers.
- IV. Saltram ; *Keys, ib.* About Elburton. Between Pomphlet and Billacombe, and near Hooe. Shalaford ; near the village, &c., Egg Buckland. Hemerdon.
- V. Between Wembury and Fordbrook. Brixton. Near Puslinch. Near Cadleigh.
- VI. Ivybridge ! ; *Keys, ib.* Between Battisborough and Mothecombe. Kingston. Holbeton.

755. C. lævigata, Sm. Smooth-stalked Sedge.

Native ; in wet places in copses, and in woodland swamps. Common. May, June.

- c. I. Antony ! ; *Brent, Keys, Fl. iii.* 264. Wood between Seaton and Treloy farm. Sheviock. Polbathick. Meadow near Shillingham. Neighbourhood of Pillaton. Cutmere.
- II. Kingsmill. Marshy spot between Hatt and Penters Cross.
- d. III. Manadon Wood ; *Keys, ib.* Woodlands and Budshead. Warleigh Wood, &c., Tamerton Foliot. Tavy Valley. Near Double Water.
- IV. Bickleigh Vale ; Shaugh ; *Keys, ib.* Shalaford, Derriford, Fursdon, &c., Egg Buckland. In plenty in damp spots in the Plym Valley woods. Near Trowlesworthy, on Dartmoor.
- V. Near Fardel.
- VI. Vale between Okinbury farm-house and Bigbury Bay. About Ivybridge.

Wherever *Hypericum boeticum* is found this *Carex* is almost certain to be met with also ; the converse however is by no means the case, as the Sedge is the much more frequent plant.

756. C. binervis, Sm. Green-ribbed Sedge.

Native ; on moors, commons, and waste grassy places. Locally common. May, June.

- c. I. Sheviock ; *Brent, Keys, Fl. iii.* 264 ; seen below a wood between Denabole and Sheviock village. Viverdon Down. Pillaton Down.
- II. Between St. Mellion and St. Dominick. Below Hingston Down.
- d. III. Roborough Down.
- IV. Between Shaugh and Cadover Bridge ; *Keys, ib.* Hemerdon. Wigvor Down. Sheepstor.
- V. Cornwood ! ; *Keys, ib.* Crownhill Down.

VI. Ivybridge ; *Keys, ib.* Western Beacon. On Dartmoor, about the Erme Valley.

757. C. distans, L. *Distant-spiked Sedge.*

Native ; about springs and on damp rocks by the coast, and in muddy or marshy spots by tidal waters. Common. May, June.

- c. I. By the shore between Seaton Sands and Crafthole ; *Pascoe, Phyt.* ii. 943 ; seen here, and between Seaton and Hessenford. Wivelscombe.

II. In grassy places on the rocks by Whitsand Bay. St. Johns.

d. III. Blaxton ! ; *Holmes, Keys, Fl.* iii. 264. By Weston Mills Lake.

IV. Staddon Cliffs ; *Keys, ib.* Between Mount Batten and Jenny Cliff. Longbridge.

V. Rocky shore between Bovisand and Wembury. In the crevices of damp rocks near Stoke Point, also near Worsewell, and below the church, Revelstoke.

VI. Marsh near Orcherton.

First record : *Pascoe*, 1847.

758. C. punctata, Gaud. *Dotted-fruited Sedge.*

Native ; in damp grassy spots on maritime rock. Very rare. June.

- d. V. On the lower part of a slaty cliff by the shore of Bigbury Bay ; rather sparingly, and with the exception of one plant all growing within the compass of a few yards ; occurring with *C. extensa*, *Arundo Phragmitis*, and other coarse vegetation, not much above high-water mark. *C. distans* in the neighbourhood, but not intermixed. Discovered in July, 1875.

The leaves of *C. punctata* are rather broader than those of *distans* ; stems stiffer and straighter ; glumes of female spikes lighter and greener ; the most obvious differences however are in the female spikes and fruit.

First record : *Briggs*, 1875, in *Jour. Bot.* iv. N.S. 295 ; also first for Devon.

759. C. fulva, Good. *Tawny Sedge.*

Native ; in peaty bogs and swampy places. Very rare and extremely local. May, June.

- c. I. Abundant in bogs and swampy places on Viverdon Down ; also in one or two enclosures below the down.
- d. (IV. b. *speirostachya*, Sm. Bickleigh Down ; *Keys, Fl.* iii. 263 : no doubt an error ; there were no bogs or swampy places on this now enclosed common.)

The Viverdon Down plant seems intermediate between the so-called vars. *genuina* and *speirostachya*.

760. *C. extensa*, Good. *Long-bracteated Sedge.*

Native ; in salt marshes, and in damp muddy spots by the sea or about tidal waters. Common. June, July. Maritime.

- c. I. By the waters of the tidal Notter at Sheviock, &c. By Sconner Lake.
- II. Whitsand Bay, near Rame Head. By Millbrook and St. Johns Lakes. Wilcove.
- d. III. By Weston Mills Lake, in plenty. By Tamerton Foliot Lake. Blaxton Marsh. By the Tavy at Maristow.
- IV. Chelson Meadow ! ; Bovisand ; *Frean, Keys, Fl.* iii. 263.
- V. On damp maritime rocks near Worsewell, Revelstoke ; also below the church. By Bigbury Bay, at Wadham.
- VI. By the Erme, near Mothecombe.

Probably this used to grow at Keyham, in District III. The plant referred to in Keys's *Flora* as collected near Keyham old potteries, and called by the late Mr. Bunker *C. canescens*, L., *C. Buxbaumii*, Wahl., was really *C. extensa*, judging from specimens in *Herb. Gould.*

761. *C. flava*, L. *Yellow Sedge.*

Native ; in bogs, damp peaty and marshy places. Very common. May to July, or later.

- c. I. Swamp between Seaton and Treloy. Near Notter farm-house. Viverdon Down. Pillaton Down.
- II. Between Torpoint and St. Johns. Near Carkeel. Near Callington.
- d. III. In the Devonport trenches, 1850 ; *J. Bunker, Herb. Gould.*, labelled *Oederi*. Near Honicknowle and Weston Mills. Between Knackersknowle and Tamerton Foliot. Roborough Down.
- IV. Derriford, Egg Buckland. Bickleigh. Dartmoor.
- V. By springs on the sea-bank at Revelstoke. Near Stretchley. In abundance on the marshy flat below Cholwichtown. Yealm Vale, on Dartmoor.
- VI. Erme Valley, and on Dartmoor.

The plant occurring at many of the above stations is certainly *b. lepidocarpa*, Tausch., and I am not certain that we have true *a. genuina*, Syme, anywhere.

762. *C. hirta*, L. *Hammer Sedge.*

Native ; in meadows and damp grassy and turf-y places. Rather common, though local. May, June.

- c. I. In one place in the Seaton Valley, between Hessenford and the coast, 1874.
- II. In plenty in a damp grassy spot on the northern side of the creek at Wilcove.

- d. III. In a clayey field at Woodlands, by the field-path to Knackersknowle.
- IV. Near Longbridge; *Hore, Keys, Fl.* iii. 265; ! 1880. By a rill above the coast, near Bovisand. Between Staddiscombe and Goosewell. Saltram. Hay, near Elburton. About Plympton, and between Colebrook and Newnham. Field between Compton and Egg Buckland; also at Forder and Fursdon, in the latter parish.
- V. Wembury, in a meadow below the church and elsewhere. Near Worsewell, Revelstoke. Near Bridgend. In many places in Brixton parish. By the Yealm, near Weston Mill. Between Yealm Bridge and Flete western lodge. Near Lee Mill Bridge, and at Ford.
- VI. On a grassy sand-bank by Bigbury Bay, below Kingston; also below Ringmoor. By the turnpike road, near Flete. Between Strood and Ermington.

763. C. Pseudo-cyperus, L. Cyperus-like Sedge.

- Native; on a bushy river-bank and about a pond. Very rare and local. June.
- d. IV. Near Plymbridge; *Hore*; Marsh, Longbridge, by the Plym; *Holmes, Keys, Fl.* iii. 265; it occurs in abundance by a pond at Plymbridge.

764. C. paludosa, Good. Lesser Pond Sedge.

- Native; in a damp swampy portion of a marsh. Very rare. May, June.
- d. V. In a low marsh or meadow on the left bank of the stream immediately above Fordbrook, extending thence up the vale in profusion for some distance. Found in 1873.

765. C. riparia, Curtis. Greater Pond Sedge.

- Native; in damp marshy ground; in and by ditches and tidal waters. Rather rare. Latter part of April, May.
- c. I. In plenty in marshy ground in an orchard above the tidal Notter, near Antony village. Seaton.
- II. In abundance in a marsh above St. Johns Lake.
- d. III. Amongst rushes by Tamerton Lake, and extending a little way up into the copse-wood of Warleigh above.
- IV. Chelson Meadow; *Keys, Fl.* iii. 266. In spots in and about the osier-beds of Efford Marsh, Egg Buckland.

766. C. ampullacea, Good. Bottle Sedge.

- Native; in shallow water and swampy places. Very rare. May.

- c. I. A rather small patch on the right bank of the Notter, close to Clapper Bridge, 1874.
- d. IV. In a swamp just at the source of Torey Brook, below Shell Top, Dartmoor.

767. C. vesicaria, L. Bladder Sedge.

Native ; in shallow water and wet ground. Very rare. May.

- d. III. Banks of Tamar ; *Hore, Keys, Fl.* iii. 266 ; seen at Weir Head, 1871. In abundance in damp and wet spots in a meadow near Tavistock, below the turnpike road thence to Plymouth, 1880.

C. Oederi, Ehrh. "Common. Shaugh ; Tavistock ;" *Keys, Fl.* iii. 263. Error probably, in all cases, through *C. flava, b. lepidocarpa*, having been mistaken for it.

G R A M I N A .

SETARIA, Beauv.

768. S. viridis, Beauv. Green Bristle-Grass.

Casual or Alien ; in cultivated ground, &c. Very rare. August to October.

- c. II. Many plants in a field of mangold wurzel between Trevol and Antony ; also in considerable quantity among turnips in another field in that neighbourhood, 1876.
 - d. IV. A plant or two in a potato-plot close to Laira Terrace, Plymouth, August, 1876. Three by the footpath of the turnpike road, near Marsh Mills, Plympton St. Mary, August, 1876.
- Scarcely entitled to a place in the Plymouth list.

ANTHOXANTHUM, L.

769. A. odoratum, L. Sweet-scented Vernal Grass.

Native ; in pastures, woods, on commons, moors, and banks. Very common. April to June. Area general.

One of the commonest grasses ; found all over the country, in the churchyard of St. Andrew, Plymouth, and on Dartmoor. The var. *villosum* occurs.

A. Puelii, Lec. et Lamt. Casual ? In two contiguous oat-fields, and in a third neighbouring one, on the sea-bank above Bigbury Bay, near Lambside (District v.), 1875. The fields when the grass was found seemed to have been sown with fodder plants to succeed the oat crop, so it is not at all unlikely that the *Anthoxanthum* was introduced with the

clovers and fodder grasses. Still several of our corn-field weeds grew with it, and it appeared in considerable quantity. In the following year it was again in plenty in the locality, but in one of the fields I found two or three plants of *Cynosurus echinatus*. In another the crop had just been cut for hay, but the panicles of the *Anthoxanthum* being short from the drought of the season, they had escaped the scythe. Of this plant Dr. Boswell remarks : "It is certainly small *Puelii*, not the *A. Lloydia* of Jordan, which has the uppermost leaf close to the panicle." (*Rep. Bot. Ex. Club*, 1875, 30.)

DIGRAPHIS, *Trin.*

770. *D. arundinacea*, *Trin.* Ribbon Grass.

Native ; by streams, rivers, and in damp bushy places. Common.
Part of June, July.

- c. I. Seaton Valley. Between Polbathick and Trerule. About Landrake. Cutmere.
- II. Abundant by the side of the Tamar, between Calstock and the Weir Head ; *Jacob*, *Fl.* part 4. In an elevated hedge near Calstock Church.
- d. III. Tamerton Foliot. Tavy Valley.
- IV. Longbridge ; *Holmes, Keys*, *Fl.* iii. 267. Stoneybridge, near Marsh House, &c., Egg Buckland. Between Colebrook and Newnham.
- V. Bridgend. Near Lee Mill Bridge. Cornwood.
- VI. Ivybridge ; *Frean, Keys*, *ib.* Flete. Between Erme Bridge and Strood.

First record : *Jacob*, 1835.

PHALARIS, *L.*

771. *P. canariensis*, *L.* Canary Grass.

Casual or Alien ; in waste places near houses and in cultivated ground. Rare.

- c. II. Field by the river side about half-a-mile from Cotehele ; *Jacob*, *Fl.* part 4. In garden ground at Torpoint, 1872, 1873. Many plants among mangold wurzel in a field between Torpoint and St. Johns, July, 1872. In a field of mangold wurzel near Kingsmill, with one of *Cannabis* and many of *Bromus secalinus*, August, 1873. Many plants in a waste part of a wheat-field near Saltash, June, 1872.
- d. III. A plant or two near Ford, June, 1872. One or two in a potato-plot at Keyham, 1872. Several by the Plymouth and Saltash Road, near the Passage, July, 1873.
- IV. Quarries near St. (Queen ?) Anne's Battery, Plymouth ; *Jacob*,

ib. A few plants in neglected garden ground between Crabtree and Laira, 1872. Among potatoes at Saltram, 1872.

Nowhere permanent; and the species would disappear were it not for the seed being scattered with refuse from bird-cages, &c.

ALOPECURUS, L.

772. *A. geniculatus*, L. Bent-stemmed Foxtail Grass.

Native; in shallow pools, about ponds and ditches, and in other wet or damp places. Very common. June to September. Area general.

Occurs very near the town of Plymouth, and is one of the most frequent grasses in shallow pools by roadsides.

773. *A. bulbosus*, L. Tuberous Foxtail Grass.

Native; in salt marshes. Very rare. Part of May, June.

- c. I. In great abundance in a large marsh on the left bank of the Tiddy, just below Tideford.
- II. In a salt marsh at Cotehele; and in another small marsh or mud-flat below Danescombe Vale, in plenty: both stations by the tidal Tamar. Discovered in 1875.

This is very likely to occur in District III., but is unrecorded for it.

774. *A. pratensis*, L. Meadow Foxtail Grass.

Native; in damp pastures, meadows, and on banks. Locally common. May, June.

- c. I. Landrake. St. Germans, in plenty.
- II. Kingsmill.
- d. III. Mount Wise, Devonport; *Mr. H. Tucker, Keys, Fl.* iii. 267. Pennycomequick and Cemetery grounds. Plymouth and Saltash Road.
- IV. St. Andrew's Churchyard, Hoe, &c., Plymouth. Lipson. Egg Buckland. Plympton.
- V. Cornwood.
- VI. Ivybridge!; *Keys, Fl.* iii. 268. Pamflete. Between Ivybridge and Ermington.

A very common grass in the turf of gardens in the town of Plymouth and in pastures around, yet absent from very considerable portions of the area of the *Flora*.

A. agrestis, L. Casual. Plymouth; *Hore, Keys, Fl.* iii. 268. A single plant in a barley-field at Rame (District II.), July, 1875; a few with *Trifolium incarnatum* in a field near Prospect, Pennycross (III.); doubtless introduced, like *Silene annulata*, Thore, which was also growing with the *Trifolium* crop. This cannot be considered even a Colonist.

PHLEUM, L.

- 775. P. pratense, L.** *Common Timothy Grass.*

Native ; in pastures, meadows, and waste grassy places. Very common. July, August. Area general.

One of the commonest grasses. A plant having two of its spikes furnished each with a long bract-like leaf, near Blaxton, 1876.

P. arenarium, L. Casual, introduced with ballast. Oreston ; *Brent, Keys, Fl.* iii. 267. One plant on a heap of fine ballast sand at Cattedown, May, 1875.

GASTRIDIUM, Beauv.

- 776. G. lendigerum, Gaud.** *Awned Nitgrass.*

Colonist ; in cultivated land. Very rare and local. July, August.

c. II. Between Trevol and St. Johns ; *Jacob, Fl.* part 14. Near Torpoint ; *Hore, Keys, Phyt.* iii. 1002. A single plant in a field from which grass had been cut between Torpoint and St. Johns, in a slight depression by the footpath, July, 1872 ; two in an arish in the same neighbourhood, August, 1872. The places named are near together, and the preceding three records must be considered to have reference to one station only.

First record : *Jacob*, 1836.

AGROSTIS, L.

- 777. A. setacea, Curtis.** *Bristle-leaved Bent Grass.*

Native ; on commons, moors, and heathy hedge-banks. Locally common. Part of June, early part of July.

c. I. By the old road between Polscove and Polbathick, rather sparingly, 1878. Viverdon Down, in abundance. Pillaton Down. Heathy ground near Clapper Bridge. Cadsonbury.

II. Whitsand Bay ; *Captain M'Adam, Keys, Fl.* iii. 270. Mount Edgcumbe. Waste ground and hedge-banks between St. Mellion and St. Dominick. Hingston Down.

d. III. Roborough Down, in profusion. Double Water. Between Beer Alston and Tavistock.

IV. Common in Devonshire ; *Earl of Gainsborough, Bot. Guide*, 196 ; 1805. Sparingly by Coleridge Quarry ; in plenty on many exposed hedge-banks where was formerly Egg Buckland Down. Between Colebrook and Shaugh. Bickleigh Down. Hemerdon. Dartmoor.

V. Crownhill Down.

VI. Between Ivybridge and Harford. Western Beacon, Dartmoor.

Ascends to over 1450 feet near Shell Top, on Dartmoor. Occurs in profusion on many exposed commons and certain parts of Dartmoor, though now absent from considerable portions of the enclosed tracts.

This grass is mentioned by Hudson in his *Flora Anglica* as a Devon plant, under the designation of *A. canina*, var. *agrostis foliis setacis montosis rigidis glaucis, culmo erecto* (ed. 2, 31, 1778). Curtis had it from Devon (see *Smith, Eng. Fl.* i. 91). The elder Hooker quotes the Rev. J. S. Tozer as saying : "On a sunny day the panicle is beautifully spreading, but it collapses very quickly in cloudy weather or on being gathered." *Brit. Fl.* ed. 2, 37.

778. *A. canina*, L. Brown Bent Grass.

Native ; on commons, shady hedge-banks, in pastures, and about woods. Common. Part of June, July.

- c. I. Hessenford. Between Denabole and Sheviock village, and elsewhere about Sheviock. Between Polbathick and Trerule. Tideford.
- II. Mount Edgcumbe. Marshy ground near St. Johns village. Kingsmill. Waste ground by the St. Dominick Road, near Vernico Down. Cotehele. Hingston Down.
- d. III. Between St. Budeaux and Tamerton Foliot. Warleigh Wood. Denham Bridge. Wood opposite Calstock.
- IV. Bickleigh Down ; *Brent, Keys, Fl.* iii. 270. Saltram Wood. Fursdon, woodland banks about Plymbridge, &c., Egg Buckland.
- V. Wembury ; *Keys, ib.* Between Staddiscombe and Knighton. Near Cholwichtown.
- VI. Dartmoor ; *Keys, ib.* ; seen near the Western Beacon. Near Caton.

779. *A. alba*, L. Marsh Bent Grass.

Native ; in damp places by roadsides, pastures, and meadows. Very common. July, August.

- c. I. Between Polbathick and Trerule.
- II. Anderton. St. Johns.
- d. III. Buckland Monachorum ; *Brent, Keys, Fl.* iii. 270. Tamerton Foliot.
- IV. Hoe, Plymouth, 1879. Oreston and Hooe. Widey. Plymbridge Road, Egg Buckland. Churchyard of Plympton St. Mary.
- V. Dunstone. Wiverton. Brixton.
- VI. Near Erme Bridge. Between Ivybridge and Ermington.

b. stolonifera.

Common on cliffs by the coast.

Noted for Districts i., ii., iv., and v., and it is almost certain to grow also in vi., above Bigbury Bay, since it occurs at Revelstoke. Jones first recorded it for District i. as follows : "In great abundance on the cliffs between Crafthole and Looe." *Bot. Tour*, 16 ; 1820.

780. A. vulgaris, With. *Common Bent Grass.*

Native ; in dry pastures, on commons, banks, and in waste turf-y places. Very common. July, August. Area general.

One of the most widely diffused grasses. It helps to form the turf of gardens in the town of Plymouth, as well as that of the open commons and sea-banks of the area. The var. *b. pumila* occurs in turf-y pastures about Dartmoor.

Our four species of *Agrostis* are all named in Dr. Jacob's *Flora*, but no special stations are given.

PSAMMA, Beauv.**781. P. arenaria, R. and S.** *Murram.*

Native ; in sand on the coast, or by the waters of an estuary. Very rare and local. July.

d. VI. In sandy soil just above Meadowfoot Cove, below Mothecombe ; also on the eastern side of the Erme estuary, near Kingston.

CALAMAGROSTIS, Adans.**782. C. Epigeios, Roth.** *Wood Small Reed.*

Native ; in a bushy place above a river estuary. Very rare. Part of July, August.

d. VI. On the edge of a low crumbling cliff on the Kingston side of the Erme estuary, opposite Mothecombe, extending for a few yards, intermixed with stunted bushes of *Rosa spinosissima*, *Ligustrum vulgare*, &c., 1876.

PHRAGMITES, Trin.**783. P. communis, Trin.** *Common Reed.*

Native ; in low swampy places and on mud by rivers ; also on cliffs and in bushy spots by the coast. Common. September, October.

- c. I. Downderry. Seaton Valley. By the Notter, near Stoketon.
- II. Calstock ; Tregantle ; Cawsand ; *Keys, Fl.* iii. 269. Near Rame Head. St. Johns. Wilcove.
- d. III. Lophill ! ; *Gould. and Harper, S. D. Lit. Chron.* 131 ; 1846. Near Saltash Passage ! ; *Keys, ib.* By Weston Mills Lake, below Barn Copse, 1879. Beer Ferrers.
- IV. Mount Batten ; *Keys, ib.* Between Bovisand and Wembury. [Boggy pit below Saltram gardens, 1870 ; destroyed shortly after.]
- V. Wembury. Revelstoke. By Bigbury Bay, at Wadham.

There is little doubt but that it grows in District vi., though I have no record of it there.

MILIUM, L.

- 784. M. effusum, L.** *Wood Millet Grass.*

Native ; in woods, and on shady banks. Rather common. May, June.

- c. I. Sheviock Wood. By the Torpoint and Liskeard Road, about Sconner.
- d. III. Manadon Wood ; *Keys, S. D. Lit. Chron.* 385 ; Maristow ; *id. Fl.* iii. 268. Still at Manadon, 1879. Warleigh Wood.
- IV. Saltram ; *Keys, ib.* Widey. Plymbridge, and in other wooded spots about the Plym. In abundance in a lane near Plympton, 1878.
- V. Passage Wood, Revelstoke. Near Gorlofen, and between Efford and Lynham. Rounds Nest, near Yealmpton village.
- VI. Near Ivybridge.

AIRA, L.

- 785. A. cæspitosa, L.** *Tufted Hair Grass.*

Native ; on the banks of rivers and streams, in low meadows, and marshy or swampy places. Very common. July.

- c. I. Between Wacker and Sheviock. Polbathick Wood. Notter Valley. Between Landrake and Tideford. Saltash and Callington Road, near Carkeel.
- II. St. Johns ; *Hore* ; Antony ; *Hore, Keys, Fl.* iii. 272.
- d. III. Near Honicknowle. Budshead. Buckland Monachorum Down.
- IV. Egg Buckland. Sheepstor. Dartmoor.
- V. Coomb Woods, Cornwood ; *Keys, ib.* Revelstoke. Between Yealm Bridge and Flete. Brixton.
- VI. Between Ivybridge and Harford. Dartmoor.

- 786. A. flexuosa, L.** *Heath Hair Grass.*

Native ; on moors, in open places about copses and woods, and in heathy waste spots. Locally common. June, part of July.

- d. III. Walkhampton ; *Hore, Keys, Fl.* iii. 272. Between Denham Bridge and Beer Alston.
- IV. Buckland Down ; *Brent* ; Bickleigh Vale ; *Frean, Keys, ib.* Common in heathy or open spots by the Dartmoor tramway, near Fancy, &c. Hemerdon. Shaugh. Sheepstor. Dartmoor ; a variety here with panicles of a light yellowish tint.
- V. Dartmoor ; *Keys, ib.* ; there between Pen Beacon and Cornwood. About Cornwood.
- VI. Between Ivybridge and Harford. About the Erme Valley on Dartmoor.

There is no record of this for the Cornwall Districts i. and ii., but it has been found in the county.

787. A. caryophyllea, L. *Silvery Hair Grass.*

Native ; on banks, in rocky or dry waste places, and on commons.

Very common. June.

Found both in the enclosed and open country, on the warm coast as well as in the high cold tracts about Dartmoor. The vars. *patulipes* and *aggregata* occur.

788. A. præcox, L. *Early Hair Grass.*

Native ; on commons, in very dry sandy or rocky waste spots, and on earth-capped walls. Common. May.

- c. I. Between Seaton and Hessenford. Viverdon Down.
- II. Whitsand Bay !; *Keys, S. D. Lit. Chron.* 268. Maker Heights. Calloget Green.
- d. III. King's Tamerton. Saltash Passage. Roborough Down.
- IV. Runple. By the tramway at Common and Fancy Woods. Between Shaugh and Cadover Bridge.
- V. Wembury. Near Dalamore. Hanger Down.
- VI. Kingston. Between Ivybridge and Caton ; also between it and Harford. Dartmoor.

Most frequent on the coast or near tidal waters and in the moorland tracts. Where it occurs it is often in abundance.

AVENA, L.**789. A. flavesrens, L.** *Yellow Oat Grass.*

Native ; in dry pastures, on open banks, and in waste turf places. Common, though somewhat locally so. July, August.

- c. I. Between Crafhole and St. Germans Beacon. Tideford.
- II. Sea-bank above Whitsand Bay. Near Millbrook. St. Johns. Antony. Near Saltash.
- d. III. Devil's Point; *Brent, Keys, Fl.* iii. 273. Between Pennycomequick and Stoke Damerel. Plymouth and Saltash Road. St. Budeaux.
- IV. Under the Citadel, Plymouth ; Saltram ; *Keys, ib.* The Hoe, Furze Hill Lane, and on the turf in gardens in Plymouth. Down Thomas. In abundance on the limestone east of Plymouth. Egg Buckland. By the Plymouth and Tavistock Road, near Fancy.
- V. Above Bigbury Bay. Revelstoke. Wembury. Newton Ferrers. Lanes between the Totnes and the Plymouth and Ivybridge Roads.
- VI. Mothecombe. Kingston. Ermington.

Apparently quite absent from the colder portions of the area ; abundant in warm turf places on the coast.

790. *A. pubescens*, L. *Downy Oat Grass.*

Native; on banks, in waste places and old pasture land where the soil is calcareous. Rare, and very local. Part of May, June.

- d. III. Devil's Point; *Johns, Keys, Fl.* iii. 273: with a reference to the *Flora* of Dr. Jacob, but the species is not mentioned in that work. It is however likely to have occurred at the place.
- IV. Cattedown Quarries; *Hore, Phyt.* i. 161; seen at Cattedown, 1875; in plenty at Prince Rock, 1873; several plants on a small mass of rock between the cement works at Deadman's Bay and Cattedown village, 1874. Mount Batten; *Brent, Keys, Fl.* iii. 273. Three or four plants on the Hoe, near Tin Side, 1880. In rough turf ground above Jenny Cliff. In many places on the limestone beds between the eastern bank of the Plym estuary and Elburton; near Turnchapel and Radford, about Pomphlet, near Billacombe, at Wixenford, near Hay farm-house, at Gore, &c. In plenty on the grassy slope below the Amphitheatre at Saltram. Two plants in a field on Derri-ford estate, Egg Buckland, June, 1878; probably introduced.
- V. Two or three plants on a bank in a pasture between Kitley and Rounds Nest, near Yealmpton village, May, 1878.

This occurs on slate around beds of limestone as well as on the latter rock, but probably wherever it appears as a Native there is a considerable amount of lime in the soil. It is one of the species with a strikingly local distribution.

First record: *Hore*, 1842.

791. *A. strigosa*, Schreb. *Black Oat.*

Colonist or Casual; mostly in fields of cultivated oats, but also as a weed in arable land with other crops. Rather common. July, August.

- c. I. One plant by the roadside near Latchbrook, St. Stephens, August, 1871. Very sparingly among oats in a field between Port Wrinkle and St. Germans Beacon, 1875. One plant on the border of a field near Trematon, September, 1875.
- II. One at the side of a barley-field at Rame, August, 1875. One on a hedge-bank a little beyond Cremyll, 1877. Two or three in a field of mangold wurzel near Torpoint, 1877; several in a field of oats, 1878.
- d. III. A plant on a wall and another by the roadside near the bridge over Weston Mills Lake; the latter with *Bromus secalinus*, August, 1873. One behind Osborne Villas, Stoke Damere, in front of a stable-yard, 1871. With fodder plants and oats in a field near Prospect, 1874. Seen among oats in fields at Whit-

leigh, between Pennycomequick and Prospect, near Tamerton Foliot, and near Knackersknowle.

- IV. Single plant by the roadside at Billacombe, September, 1875. In considerable quantity among barley in a field at Forder, Egg Buckland, 1879. Among barley in one at Common Wood, 1871. Among cultivated oats near Austen Fort, at Common Wood, between Goosewell and Staddiscombe, and at Hemerdon.
- V. One plant in a corn-field at Wembury, 1875. In a barley-field at Dalamore, Cornwood; a single plant in another near Cornwood, 1879.
- VI. Among oats in a field by the road between Ivybridge and Harford Church, 1870.

Appears for the most part to be sown with the cultivated oat, *A. sativa*, through admixture of the seeds.

792. *A. fatua*, L. Wild Oat.

Colonist; among corn, on the borders of cultivated fields, and in waste spots about arable land. Rather common. July, August.

- c. I. Among potatoes, &c., between Downderry and Seaton, 1876. Barley-field above the Notter, near Markwell, 1871.
- II. Near Torpoint, 1837; specimen in *Herb. Easton*, probably collected by the Rev. W. S. Hore. In an oat-field between that and St. Johns, 1870; in fields in the same neighbourhood, among wheat, &c., 1871; again noticed, 1872; at Trevol, 1878. Abundant among wheat in a field near St. Johns village by the path to Tregantle, 1871. Barley-field near Antony, by the road to Tregantle, 1872. A plant between Millbrook and Weir, 1872.
- d. III. Two in a waste spot at Knackersknowle, 1870.
- IV. Near Elburton. A few plants among wheat in a field at Goosewell, Egg Buckland, 1872.
- V. In plenty in a field of barley at Wembury, near Yealm Ferry, 1875. Field between Wembury and Brixton, 1870. Between Brixton and Plympton, 1870.
- VI. Barley-field at Orcherton, near Kingston, 1875; again in the locality, 1876. Wheat-field near Efford, Holbeton, 1874.

793. *A. elatior*, L. False Oat Grass.

Native; on banks, in bushy places, and in cultivated ground. Very common. Part of June to August. Area general.

The form or variety *b. nodosum* is one of the commonest grasses on hedge-banks, and seems altogether more frequent than the type. The latter generally grows in much larger patches than the variety.

A. pratensis, L. Cattedown Quarries, Plymouth ; *Hore, Keys, Fl.* iii. 273. Record through confusion with *A. pubescens*? If otherwise probably now extinct.

HOLCUS, L.

794. H. mollis, L. *Creeping Soft Grass.*

Native ; on hedge-banks and in other bushy places. Very common. July. Area general.

- c. I. St. Germans.
- II. Millbrook ; *Brent* ; between Torpoint and St. Johns ; near Saltash ; Calstock ; *Keys, Fl.* iii. 271. Saltash and Callington Road.
- d. III. Weston Mills ; *Keys, ib.* King's Tamerton. Between St. Budeaux and Tamerton Foliot.
- IV. Bickleigh ; *Keys, ib.* Billacombe. Between Lipson and Laira. Compton.
- V. Newton Ferrers.
- VI. Between Ivybridge and Ermington.

Frequently seen among low bushes on the top of hedge-banks.

795. H. lanatus, L. *Yorkshire Fog.*

Native ; in pastures, meadows, on moors, and in waste places. Very common. July to September. Area general.

One of the commonest grasses, growing in fields close to Plymouth, and found in damp spots on the open moorlands as well as over all the enclosed country.

TRIODIA, R. Br.

796. T. decumbens, Beauv. *Decumbent Heath Grass.*

Native ; on commons, moors, in waste heathy places, on dry banks, and sometimes in turf spots in salt marshes. Locally common. June, July.

- c. I. Between Tregantle and Crafthole. Near Latchbrook. Between Polbathick and Caracawn. Between Antony and Wacker. Viverdon Down. Cadsonbury.
- II. Above Whitsand Bay. Hay Lane, near Torpoint. St. Johns. Between St. Mellion and St. Dominick. Hingston Down.
- d. III. Devil's Point ; *Brent, Keys, Fl.* iii. 274. Bank by Plymouth and Saltash Road. Between Budshead and Tamerton Foliot. Blaxton Marsh. Buckland Monachorum Down.
- IV. Bickleigh ; *Keys, ib.* Heybrook, on the coast. On limestone near Pomphlet, Radford, &c. Derriford and near Rumble, Egg Buckland. Sheepstor.
- V. Creacombe. Near Stretchley. Near Cholwichtown.
- VI. Between Ivybridge and Harford.

Found mostly on the heathy commons and moors of the wilder tracts.

KOELERIA, Pers.

- 797. K. cristata, Pers.** *Crested Hair Grass.*

Native ; in waste places and in old unbroken pasture land on calcareous soil. Rare, and very local. June.

- c. III. Mount Wise, Devonport ; *Holmes* ; Devil's Point ! ; *Brent, Keys*, *Fl.* iii. 274.
 IV. Saltram ; *Mr. C. Johns, Jacob*, *Fl.* part 15. Plymouth ; *Hore* ; under the Hoe ; *Holmes* ; ! 1879. Cattedown, on limestone rubble ; also on old cuttings in slaty soil at Prince Rock. Mount Batten. Near Radford. By a lane near Hay farm-house. First record : *Jacob*, 1836.

MOLINIA, Schrank.

- 798. M. cærulea, Moench.** *Purple Hair Grass.*

Native ; on moors, in peaty marshes, and damp places on commons. Locally common. August, September.

- c. I. Wacker. Near Polbathick. Notter Valley. Pillaton Down.
 II. Marsh by St. Johns Lake, in plenty. Below Kit Hill.
 d. III. Roborough Down ! ; *Banker, Keys, Fl.* iii. 275. Gawton.
 IV. Shaugh Bridge ; *Keys, ib.* Derriford, &c., Egg Buckland. Lee Moor. Sheepstor.
 V. Dartmoor ; *Fl. Dev.* 15 ; in the Yealm Vale. Cornwood ; *Keys, Fl.* iii. 275. Crownhill Down.
 VI. Ivybridge (bearing ergot) ; *Brent, ib.* Hanger Down. Erme Valley.

Very common in moory districts, sometimes being one of the most frequent species for acres together, but quite extirpated from certain tracts through cultivation.

MELICA, L.

- 799. M. uniflora, Retz.** *Wood Melic Grass.*

Native ; in hilly woods, on woodland banks, and in shady lanes. Rather common. May.

- c. I. Between Seaton and Hessenford. Sconner. Near Moditon Mill. Near Pillaton Mill.
 II. Hatt. Cotehele Wood.
 d. III. Manadon Wood ! ; *Keys, S. D. Lit. Chron.* 385 ; Maristow ; *id.*, *Fl.* iii. 275. Budleigh Wood. Warleigh Wood. Blaxton. Gawton, &c., Beer Ferrers.
 IV. Saltram ; Bickleigh Vale ; *Keys, Fl. ib.* Shalaford Lane and Common Wood, Egg Buckland. Plymbridge.
 V. Near Yealmpton.
 VI. Pamflete. Saltercress, Kingston. Strood.

Very dissimilar to all our other grasses.

CATABROSA, Beauv.

- 800. C. aquatica, Presl.** *Water Whorl-Grass.*

Native ; in shallow water ; or on the mud of ditches, pools, and roadside drains. Rare and local. June, July.

- c. I. Sparingly in a damp spot by the roadside, two miles from Saltash, on the road to Landrake, 1875. In abundance in a stream in a meadow below Trematon Hall. In plenty in a wet spot by a stream below Wayswandra farm-house, between Wooton Cross and Filbridge. Lane near Notter Bridge.
- II. In plenty in and about a stream at Combe, and also at Pill, near Saltash. Kingsmill, just above the inlet.
- d. III. Weston Mills ; *Brent, Keys, Fl.* iii. 279 ; occurs in moist or wet spots between that and Swilly, also by the lane leading thence to Ford. Plymouth and Saltash Road, near the Camel's Head Inn.

(IV. Ditch at Compton ; *Holmes, Keys, ib.*)

The cause of the peculiar and strikingly local distribution of this grass is not apparent.

GLYCERIA, R. Br.

- 801. G. fluitans, Brown.** *Floating Meadow-Grass.*

Native ; by and in the water of shallow ponds, pools, ditches, and slow streams. Very common. June to September. Area general.

Met with both in the enclosed country and in the open moory tracts. The var. *b. pedicellata*, Towns., occurs in many places. I have often found it difficult to divide plants of the neighbourhood between it and *eu-fluitans*, Syme. Specimens from the vale below Ford (District III.), near Longbridge (iv.), and between Battisborough and Lolesbury (v.), agree fairly with examples of *pedicellata* collected and named by Mr. Townsend himself.

G. fluitans is liable to be attacked by ergot.

- 802. G. plicata, Fries.** *Folded-leaved Meadow-Grass.*

Native ; about and in the water of shallow ponds, pools, ditches, and slow streams. Rather common. June to September.

- c. II. Wet place under a grove of trees between Saltash and St. Stephens ; satisfactory *a. genuina*, Syme.
- d. III. Ditch in the lawn at Beaconsfield, and in a field nearly in front of Swilly farm-house. Near Boldventure. Plymouth and Saltash Road, about three miles from Plymouth. Near Warleigh, Tamerton Foliot.
- IV. By the tram-road at Crabtree. Hooe, by the road to Staddon. Between Elburton and Plympton. Compton. Vale below Egg Buckland village.

- V. Efford, near Lynham. Between Plympton and Brixton. Meadow near Ford cottages.
- VI. Ringmore, near the end of a vale opening on Bigbury Bay (extreme *genuina*). Ermington. Between Strood and Modbury. Caton.

I have never seen typical *G. plicata* in the unenclosed or cold moorland tracts. There is a form of *Glyceria* common in the area which I do not as yet, without further study, venture to assign positively to any one of the named species or varieties.

Different forms of *Glyceria* often grow intermixed, so considerable care is sometimes requisite in collecting examples for specimens.

G. aquatica, Sm. Between Torpoint and St. Johns, 1864; *Keys, Fl.* iii. 276. Error, probably. I have failed to find it.

SCLEROCHLOA, Beauv.

803. S. maritima, Lindl. Creeping Sea Meadow-Grass.

Native; in salt marshes and on mud by estuaries and other tidal waters. Very common. June, July. Area maritime.

- c. I. Antony; *Jacob, Fl.* part 17. Denabole. Tideford.
- II. Millbrook; *Mr. C. A. Johns, Jacob, ib.* Cotehele.
- d. III. Ford, near Devonport; *Holmes, Keys, Fl.* iii. 277. By Weston Mills Lake. Blaxton. Lophill. Beer Ferrers. Deadlake.
- IV. Near Saltram; *Jacob, Fl.* part 17; between Laira Bridge and the embankment above Chelson Meadow.
- V. Newton Ferrers.
- VI. Efford.

Generally the most plentiful species of grass on the mud-flats of the tidal inlets. Often coated with mud.

804. S. distans, Bab. Reflexed Meadow-Grass.

Native; in waste spots where water settles, and in muddy or damp places; generally near salt or brackish water. Rather rare and local. June to August.

- c. I. St. Germans; *Tellem, Keys, Fl.* iii. 278. By the Torpoint and Liskeard Road at Wacker Mill; several plants, 1873.
- II. Calstock, on the quay, 1877.
- d. III. Blaxton. Lophill.
- IV. Laira ! and Oreston; *Brent, Keys, Fl.* iii. 278. Occurs in many places about the Plym estuary, from Cattedown up to Shalaford Lane, just above Longbridge. Pit in the limestone quarry on the right of the Totnes Road, after passing Billacombe Villas, three-quarters of a mile from the tidal inlet at Pophlet, 1872.

805. **S. Borreri, Bab.** *Borrer's Meadow-Grass.*

Native ; in muddy places and in damp spots about tidal waters.

Very rare and local. June, July.

- d. IV. On a damp slaty bank by the brackish stream at Crabtree, growing with a few plants of *S. distans*; rather sparingly, 1875; in small quantity, 1876. On a quay at Pomphlet, sparingly, 1875; in considerable quantity in two or three spots in the same neighbourhood; also sparingly on a quay on the Oreston side of the Pomphlet inlet, 1879.

806. **S. procumbens, Beauv.** *Procumbent Meadow-Grass.*

Native ; in muddy places by drains or sluices, on quays, and at the sides of roads by salt or brackish water. Rather rare and local. June, July, and often again later.

- c. I. Tidford, in plenty, 1873.
 II. About Millbrook Lake. Calstock.
 d. III. By Tamerton Lake, 1874, and previously.
 IV. Cattedown Quarries; *Brent, Keys, Fl.* iii. 277 !; 1875; between the village and Deadman's Bay, 1873.
 Unrecorded for Districts v. and vi., like *S. distans*.

807. **S. rigida, Link.** *Hard Meadow-Grass.*

Native ; in very dry or rocky places; on wall-tops, by the sides of paths, and sometimes as a weed in dry fields among corn or other crops. Very common. June, July. Area general.

Occurs on the Hoe, and is abundant on walls about, or even in, the towns of Plymouth and Devonport. Partial to warm situations, but noted as growing in the semi-moorland parish of Cornwood. As a weed in a corn-field between Bridgend and Revelstoke Church; among grass and clover between Staddiscombe and Knighton, 1875.

808. **S. lolacea, Woods.** *Dwarf Meadow-Grass.*

Native ; on rocks, cliffs, walls, and in dry waste or sandy places on the coast or near salt water. Rather common. June, July.

- c. I. Seaton. Port Wrinkle. Tregantle.
 II. Above Whitsand Bay, between Rame and Tregantle. Kingsand and Cawsand.
 c. IV. Cattedown; *Holmes, Keys, Fl.* iii. 278; seen between Deadman's Bay and Cattedown. Hoe, 1880. Wall by Sutton Road, Plymouth, close to the goods station of the railway. Mount Batten. [Wall close to Jorey's Alms-houses, Plymouth, 1870; since destroyed.]
 V. Wembury. Newton Ferrers.
 VI. By Bigbury Bay, between Kingston and Ringmore. Mothecombe.
 Unrecorded for District III., but it probably occurs there.

POA, L.**809. P. annua, L. Annual Meadow-Grass.**

Native ; in pastures, by roadsides, in waste places, &c. Very common. Flowers the greater part of the year. Area general. A ubiquitous species ; perhaps the commonest of plants.

810. P. bulbosa, L. Bulbous Meadow-Grass.

Native ; on dry and rocky banks. Very rare and local. May.

- d. IV. Under the Citadel and Hoe ; *Keys, S. D. Lit. Chron.* 268. Noticed growing rather plentifully at Plymouth, on rocks under the Citadel, and about the Hoe, in May, 1853 ; *Flower, in Phyt.* v. 54 ; still there, 1880.

I have searched unsuccessfully for it at Tregantle, given as a station in *Keys's Flora*.

First record : *Keys*, 1846.

811. P. nemoralis, L. Wood Meadow-Grass.

Native ; on dry, but shaded, wall-tops, and on banks. Rare, and sparsely, though widely, distributed. June.

- c. I. Several tufts, yet in rather small quantity, on a wall-top near St. Germans, by the Tideford Road, 1878.
 II. On top of a wall by the lower turnpike road at Saltash, rather sparingly, 1879.
 d. III. A plant on a turf bank in the garden, Richmond Villa, Plymouth, 1879. Many at the side of the road and on a bank close to the North Road railway station, Plymouth ; there is little doubt sown with grass seeds ; 1879. Three or four plants on top of a wall at Pounds, Pennycross, 1879.
 IV. Plymstock ; in plenty on a wall near Oak Cottage, extending for some distance, also about half-a-dozen roots on another wall, 1878. On a wall by the border of the grounds of Hill Side House, Ridgway ; in rather small quantity.
 VI. Hedge-bank by the Ridgway and Ivybridge Road, about nine and a half miles from Plymouth ; also by the lane leading thence to Cornwood, in considerable quantity. Four plants on the wall in front of the Vicarage-house, Ermington, 1878. One in a lane not far from Caton, towards Lee Mill Bridge, 1879.

812. P. compressa, L. Flat-stemmed Meadow-Grass.

Native ; on stony or dry banks, roadsides, walls, and in other very dry places. Rather common. July, and sometimes later.

- c. I. Dry rocky spot by the Saltash and Callington Road, between Burraton Lane End toll-gate and Carkeel ; also on a wall-top

near St. Mellion village. Wall at Tideford, and sparingly close to Heskyn Mill by the road to Cutmere.

II. Wall at Weir, near Millbrook. Dry bank by Hay Lane, near Trevol.

III. On two walls at Honicknowle. By the side of the road from Knackersknowle to Tamerton Foliot, near the old mine workings. By the footpath on the Plymouth and Tavistock Road, near Fancy Corner.

IV. [Laira Green ; *Rev. W. S. Hore, Jacob, Fl.* part 17 ; probably extinct.] Near Laira Bridge, on limestone rubble ! ; *Keys, Fl.* iii. 276. Lipson, 1876. Crabtree. Egg Buckland ; at Leigham, on a wall by the tramway, on slaty refuse at Rumble, hedge-bank by Estover Lane, at Colwell, and in a dry field at Common Wood. By the quay at Pomphlet, on the Saltram side of the Laira waters. In plenty in an old limestone quarry near Wixenford farm-house. Crown Hill, Knackersknowle. [By the footpath at South Devon Place, Plymouth, some years ago ; since destroyed.]

V. On a wall bounding Langdon Hall grounds. On one in the village of Knighton. On another at Newton Ferrers. One between Harestone and Efford.

VI. In two places on walls at Ivybridge, close to the road to Ermington, 1879.

An inconspicuous grass, liable to be overlooked, and so to be considered rarer than it really is.

First record : *Jacob*, 1836.

813. P. pratensis, L. Smooth Meadow-Grass.

Native ; in fields, waste places, on dry banks, wall-tops, &c. Very common. May to July, or later. Area general.

One of the commonest of plants, forming a considerable portion of the grass growing in gardens, &c., in and about the town ; very frequent also on wall-tops and dry banks close to Plymouth.

814. P. trivialis, L. Rough Meadow-Grass.

Native ; in damp places by roadsides, in pastures, waste shady spots, &c. Very common. June, July.

Grows close to the town, as between Plymouth and Milehouse, and often abounds by drains at roadsides.

BRIZA, L.

815. B. media, L. Common Quaking-Grass.

Native ; in old dry or barren pastures, in bushy waste places, and on rocky banks, mostly on a limestone soil. Rather rare and local. June, part of July.

- c. I. A very small patch in a pasture on St. Germans Beacon, 1876.
In the lawn at Port Eliot, St. Germans.
- II. In plenty in a low bushy pasture near St. Johns village. A single plant on a hedge-bank near the Rectory-house at Calstock, 1879.
- d. III. Devil's Point, 1865 ; Mount Wise, Devonport, 1847 ; *Keys, Fl.* iii. 279. Still at Devil's Point, with *Avena pubescens*, 1880.
- IV. Very plentiful in the field above Catdown Quarries ; *Jacob, Fl.* part 8 ; seen very sparingly in that neighbourhood, between Prince Rock and Laira Bridge ; there in 1873. Bank on the right-hand side near to the entrance to Chelson Meadow ; *Keys, S. D. Lit. Chron.* 385 ; Saltram ! ; near Billacombe ! ; Plymstock ; *id., Fl.* iii. 279. Grows in many bushy and waste spots on the limestone beds to the east of the Plym estuary, between Pophlet, Mount Batten, and Elburton. Here it is being gradually reduced in quantity through increasing cultivation of the ground. Derriford, Egg Buckland ; a slight variety of a pale green hue here, 1868 ; the grass occurs in two pastures. Several plants on the bank of the Tavistock Railway, near Shaugh Bridge, growing with *Crepis biennis*, and there is little doubt originally introduced, 1874.
- V. Two plants on a hedge-bank by a lane between Westlake and Lee Mill Bridge, 1879.

First record : *Jacob*, 1835.

816. *B. minor*, L. Small Quaking-Grass.

Colonist ; in dry arable fields among corn or other crops. Very rare and extremely local. July, August.

- c. I. Over two dozen plants, some very small, in the old and little-frequented road between Polscove and Polbathick, growing with scanty vegetation for some yards, a quarter of a mile from Tredrossel, August, 1875.
- II. Fields between Trevol and St. Johns ; *Jacob, Fl.* part viii., with plate. Near Torpoint ; *Hore, Phyt.* i. 161, 1842. A single plant in a field of wheat between Torpoint and St. Johns, 1865 ; several among wheat, 1869 ; many, 1872 ; in plenty in a field of barley, a little north of this, by the lane from the field-path between Antony village and Trevol, 1875. These records have probably all reference to only one locality, as Trevol lies between Torpoint and St. Johns.
- IV. Five plants seen in a field of wheat between Wiverton and Butlass farm-house, August, 1878.

The stations " Devil's Point, 1847 ; " " Catdown ; *Banker*, 1850, " given under this in Keys's *Flora*, belong really, I have little doubt, to *B. media*.

The "Berry Head" station named with them under this certainly does so, by a specimen in *Herb. Plym. Inst.*

First record : *Jacob*, 1835.

CYNOSURUS, L.

817. C. cristatus, L. *Crested Dogstail-Grass.*

Native ; in pastures, waste turf places by roadsides, &c. Very common. July. Area general.

One of the commonest grasses in dry pastures.

C. echinatus, L. Casual. Under the Hoe (possibly escaped), *Hore*; Mr. G. Bartlett also records finding it in the Hoe Quarries, 1850; it is however now extinct; *Keys, Fl.* iii. 279. I have rarely found a plant or two growing in fields of fodder grasses, evidently sown with the crop.

DACTYLIS, L.

818. D. glomerata, L. *Rough Cocksfoot-Grass.*

Native ; in meadows, pastures, waste or bushy places. Very common. June to October. Area general.

An abundant plant, frequent in the turf of gardens in the town of Plymouth, and conspicuous from its tufted habit of growth. A slight variety, with panicles of yellowish tint and the plant generally of a light hue, occurs in some places with the other.

FESTUCA, L.

819. F. Pseudo-myurus, Soyer. *Mouse-tail Fescue-Grass.*

Native ; on wall-tops and in other very dry or sandy places mostly near houses. Rather rare and local. June, July.

c. I. Wall in the village of Landrake, 1878.

II. Antony ; *Hore, Keys, Fl.* iii. 280 ; by the turnpike road near the village, 1873. Wall at St. Johns, in no great quantity, 1879. On one at Saltash, 1872.

d. III. Keyham ; *Brent, Keys, ib.* ; ! 1873. By Park Road, between Mutley Plain and the Cemetery, 1879. North Road Railway Station, 1880. Walls, Tamerton Foliot, in plenty.

IV. Between South Devon Place and Laira Bridge, 1863 ; *Keys, ib.* ! 1879. Cattedown ! and Laira ! ; *Brent, ib.* Grows plentifully by the eastern road between Plymouth and Crabtree, about the latter place, and near Marsh Mills. In waste ground below Hoe Quarries, 1874. Turnchapel. Walls by the road between Mannamead and Lipson. Colebrook.

V. Bridgend. Brixton village, and near Chittleburn. Yealmpton village.

VI. On walls in the town of Modbury.

A species of the warmer tracts. Quite distinct from *sciurooides*. The two species are readily distinguishable either when luxuriant or in a dwarfed and starved condition.

820. *F. sciurooides*, Roth. *Barren Fescue-Grass.*

Native ; in dry rocky or sandy places, and on wall-tops. Very common. June, July. Area general.

Extends from the coast to the sandy roadsides of the open commons.

821. *F. ovina*, L. *Sheep's Fescue-Grass.*

Native ; on commons, moors, and in dry waste or turf-y places.

Locally common. June, July.

c. I. Viverdon Down. Pillaton Down.

II. Furzy ground above Vernico Down. Hingston Down.

d. III. Devil's Point. St. Budeaux. Roborough Down.

IV. Prince Rock, near Cattedown. On limestone near Hay farmhouse. Thornbury Corner, and by the tramway at Common Wood, Egg Buckland. Dartmoor.

V. Crownhill Down. Newton Ferrers ; the var. *glauca* by the tidal inlet.

VI. Dartmoor, above Harford.

An abundant species on the open downs and moors.

822. *F. rubra*, L.

Native.

a. duriuscula, "L." Sm. *Hard Fescue-Grass.*

On dry or rocky banks, walls, and bushy places. Very common.

June, July. Area general.

Grows on hedge-banks close to Plymouth, and is very frequent about the lanes of the enclosed country. I have never seen typical *b. arenaria*, with root-stock very extensively creeping in sand, anywhere on the coast here. There is however a form of *Festuca* common by the shores which insinuates a short partially-creeping root-stock into narrow clefts of slaty rocks. I think it must be considered a maritime form of var. *a. duriuscula*. I hope to give further attention to it.

823. *F. elatior*, Auct. *Tall Fescue-Grass.*

Native ; on hedge-banks and in bushy waste places, mostly near the sea or in the neighbourhood of tidal waters. Locally common. June, July.

c. I. Between St Germans Beacon and Port Wrinkle.

II. Between Torpoint and Antony. St. Johns. By the Tamar, near Calstock and Weir Head.

d. III. Near Devil's Point. Lophill, by the Tavy.

IV. Hoe, Plymouth, 1878. Saltram embankment, in abundance.

Turnchapel. Near Hay farm-house. In plenty between Lipson and Laira. Between Plymstock and Plympton. Between Colebrook and Newnham.

V. Wembury. Revelstoke. Newton Ferrers. In profusion near Membrland. Near Yealmpton village.

VI. Between Mothecombe and Kingston. In plenty on hedge-banks near Battisborough Cross. Erme Valley, between Mothecombe and Flete.

Mr. Keys names some of the above stations, and divides local examples between *F. arundinacea*, Schreb., and “*F. elatior*, L.” To me the plant of the neighbourhood seems rather var. *a. genuina*, Syme, than *b. arundinacea*, Schreb.

824. *F. pratensis*, Huds. Meadow Fescue-Grass.

Native; in meadows, low or moist pastures, and damp turf spots by roadsides. Common. June, part of July.

- c. I. In the lawn at Antony, and near the village. Meadow in the Tiddy Valley, at Cutmere.
 - II. Saltash and Callington Road, near Carkeel.
 - d. III. Near Pennycross Chapel; *Brent, Keys, Fl.* iii. 282. By the field-path between Mutley and Venn. Honicknowle. Knackersknowle. Blaxton.
 - IV. Marsh between Tothill and Laira. Saltram. Between Compton and Egg Buckland, and on Derriford and Fursdon estates in the latter parish. Between Plympton and Elburton.
 - V. Near Preston and Puslinch. Between Yealm Bridge and Flete. Wiverton, &c., Brixton. Near Stretchley.
 - VI. Orcherton. Ermington. Near Ivybridge.
- Perhaps this might go into the “very common” list.

b. loliacea, Huds.

- d. III. Meadow between Whitleigh and Woodlands Fort.
- IV. Saltram; *Johns, Keys, Fl.* iii. 282. Meadow at Fursdon, Egg Buckland.
- V. Between Collaford and Yealmpton.
- VI. Pasture between Ivybridge and Caton.

This grows with the type, and graduates into it by intermediate forms. Probably it occurs in all the Districts, though as yet unrecorded for the two in Cornwall.

BROMUS, L.

825. *B. giganteus*, L. Tall Brome-Grass.

Native; in woods, on woodland banks, and in damp shady spots by roadsides. Common. Latter part of July to October.

- c. I. Between Seaton and Hessenford. Between Polbathick and Trerule. Tideford. Between Latchbrook and Landrake.

- II. Near Saltash ; *Keys, Fl.* iii. 281. Botus Fleming. Landulph.
- d. III. Manadon Wood ; *Holmes, Keys, ib.* Pennycross. Warleigh. Blaxton. Near Denham Bridge.
- IV. Longbridge ; *id. et. ib.* Between Pomphlet and Billacombe. Saltram. Lipson, 1879. Widey. Abundant near Plymbridge ; noticed growing on the floor of the interesting, but neglected, old wayside chapel, in August, 1870. Stoneybridge, &c., Egg Buckland.
- V. Puslinch. Between Yealm Bridge and Flete. Between Plympton and Brixton. Between Fursdon and Slade.
- VI. Oldaport. Ermington. Modbury.

826. B. asper, L. Rough Brome-Grass.

- Native ; on hedge-banks and in bushy places. Common. July, August.
- c. I. Between Downderry and the Torpoint and Liskeard Road. Polbathick. Longlands and Trevolland, St. Stephens. Between Latchbrook and Landrake.
 - II. Near Torpoint ! ; Saltash ; *Brent, Keys, Fl.* iii. 283. St. Johns. Kingsmill.
 - d. III. Between Plymouth and Milehouse. In plenty between Weston Mills and Honicknowle. St. Budeaux. Tamerton Foliot. Blaxton. Near the Vicarage-house, Beer Ferrers, in plenty, but not general in this parish.
 - IV. Bovisand Lane. Lipson, 1879. Turnchapel. Saltram Wood. Egg Buckland. Between Colebrook and Newnham.
 - V. Newton Ferrers. Between Elburton and Fordbrook. Brixton. Yealmpton. Near Cadleigh. Near Combgate.
 - VI. Mothecombe. Holbeton. Between Kingston and Sequers Bridge. Modbury. Ermington.

This abounds in the warm sheltered and fertile tracts. Its large handsome panicles produce a fine effect in many of the lanes.

827. B. sterilis, L. Barren Brome-Grass.

- Native ; on dry banks, walls, and at the sides of roads and footpaths. Very common. June, sometimes later.
- Abundant by roadsides close to the town of Plymouth, at Mutley, Pennycomequick, &c. ; sometimes on wall-tops quite in the town ; also frequent in and about the villages of the warmer tracts of country.

828. B. secalinus, L. Rye Brome-Grass.

- Colonist or Casual ; by roadsides, and rarely as a weed in arable fields. Rather rare, but widely scattered. Part of June to September.

- c. I. Three or four plants by the turnpike road near Antony village ; also a few near Wacker Mill, 1873.
- II. One by the Saltash and Callington Road, close to Burraton Lane toll-gate, 1873 ; one near the third milestone from Saltash, 1877.
- d. III. Several, apparently sprung from stable sweepings or refuse, behind Osborne Villas, Stoke Damerel, August, 1873. Many plants by the Plymouth and Saltash Road, mostly between the second and third milestone from Plymouth, August, 1873. One near Torr Grove, 1873.
- IV. Three plants at Saltram, close to the quay at the end of the embankment, September, 1879. A few near Marsh Mills, 1874. One outside the reservoir at Hartley, 1873.
- V. Two or three by the Plymouth and Totnes Road at Elburton ; one near Yealmpton village, August, 1873.
- VI. One plant (possibly the var. *velutinus*) among wheat at Carsewell, 1873.

b. velutinus, Sm.

- c. I. One or two plants by a road in Landrake village, 1873.
- II. Near St. Johns, 1871 ; in a corn-field in the same neighbourhood, 1872. A few plants by the turnpike road between Antony House and the village, 1873.
- d. IV. In waste ground about Austen Fort, Egg Buckland, 1870. Seems only a slight variety : I have relied on the pubescence of the spikelets for distinguishing it.

829. B. racemosus, "L." Racemose Brome-Grass.

Native or Colonist ; by roadsides where water occasionally settles, in waste spots, and in grass or fodder fields. Rather common.

- c. I. Near Polbathick. By the turnpike road near Antony village. Tideford. Saltash and Callington Road.
- II. Torpoint ; *Keys, Fl.* iii. 284 ; in damp ground in a field between that and St. Johns. Between Carkeel and Moditonham. Near Landulph. Near Weir Head.
- d. III. Honicknowle, in cultivated fields ; *Brent, ib.* Between Pounds and Manadon, 1879. Field between Burrington and Manadon, 1879. Meadow near Horrabridge, 1879.
- IV. In the lawn at Radford. By the old turnpike road near Laira, 1879. Military road near Austen Fort, and Shalaford, Egg Buckland, 1879. In damp places by the road between Elburton and Plympton. Between Marsh Mills and Plympton St. Mary Church, 1879. Pasture at Derriford. Near Fancy.
- V. Roadside between Wembury and Plymstock, 1876. Between Yealm Bridge and Flete Lodge, 1878. In the lawn at Slade.

VI. Roadside near Sequers Bridge, and elsewhere near Ermington, 1875, 1878.

This looks like a Native species at many places, though it also occurs in fields sown with other fodder grasses.

830. *B. commutatus*, Schrad. *Confused Brome-Grass.*

Native or Colonist ; on moist banks, by damp roadsides, and in fields of sown grasses and fodder plants. Rather common. June, July.

- c. I. Sheviock. St. Germans, by the road to Landrake, 1878. By the roadside as you ascend from Latchbrook towards Notter Bridge.
- II. Grass-field, Antony, 1878. By the turnpike road near St. Mellion, 1876.
- d. III. Side of footpath between Pennycomequick and Stoke Damerel, 1880. In a damp spot on a bank by the Plymouth and Saltash Road ; known there for many years past. Between Manadon and Burrington. Between Budshead and St. Budeaux. Road-side near Pound farm-house, between Blaxton and Roborough Down, 1875. By the Plymouth and Tavistock Road, near Wombwell, 1875.
- IV. Pophlet Quarry ; *Brent, Keys, Fl.* iii. 284 ; on a quay there by the Plym estuary, 1879. Between Billacombe and Elburton. By the military road at Crabtree, 1879 ; near Austen Fort, 1878.
- V. Wembury ; *Keys, ib.* ; in a grass-field there, 1879. One plant in a corn-field near Dunstone, 1878.

831. *B. mollis*, L. *Soft Brome-Grass.*

Native ; on banks, in pastures, waste turf-y places, &c. Very common. June, July. Area general.

The commonest and most generally diffused plant of the genus, growing in the turf of Plymouth gardens, on the Hoe, &c. The variety *b. glabrescens* is quite frequent. I have met with it close to Plymouth, and in each of the six Districts. Sometimes it has all the appearance of a sown fodder plant, but besides growing in fields occurs on banks and in waste places by roadsides. At Rame (District II.) a small coast form combines the characters of *b. glabrescens* and *c. Lloydianus*. Respecting a somewhat similar form, collected by the shore of Bigbury Bay, in 1875, Dr. Boswell remarks : "This seems to me a form allied to *Lloydianus*. More glabrous than usual, and with the panicle less compact, though more so than in ordinary *B. mollis*. The awns are recurved when dry, but less so than in *B. Lloydianus*, but more so than in *B. hordeaceus*, Fries, which it approaches." *Bot. Ex. Club Rep.*, 1875, 31.

B. erectus, Huds. Three or four plants in a field on Derriford estate, Egg Buckland, associated with *Crepis biennis*, and probably originally introduced with seeds of fodder grasses, 1878.

B. arvensis, L. Casual. Corn-fields near St. Johns ; *Hore, Keys, Fl.* iii. 284. I have on two or three occasions seen single plants.

BRACHYPODIUM, Beauv.

832. *B. sylvaticum*, Beauv. *False Wood Brome-Grass.*

Native ; on hedge-banks, in open places in woods, and in other bushy places. Very common. July, August, or later.

One of the commonest grasses, abundant on the hedge-banks of lanes close to Plymouth. Here its tufts of yellowish-green leaves are a conspicuous feature among the early spring vegetation. A slight variety, with the spikes slender and remarkably erect, grows by the Plymouth and Saltash Road, near Weston Mills Lake. I have no doubt this is the plant recorded in Keys's *Flora* as *B. pinnatum*, which species I consequently omit.

TRITICUM, L.

833. *T. repens*, L. *Common Couch-Grass ; 'Stroil.'*

Native ; on banks, by roadsides, in waste places, and on the coast. Very common. July, August. Area general.

Grows in the town of Plymouth. The awned form, var. *b. barbatum*, *Eng. Bot.*, ed. 3, is common. A plant from crevices of rock and in sand on the shore at Wembury (District v.), Dr. Boswell considers var. *g. obtusum*, as also another from sandy soil by the tidal Erme at Pamflete (vi.).

834. *T. pungens*, Koch. *Erect Sea Couch-Grass.*

Native ; in rocky, muddy, and waste places on the coast and by tidal waters. Common. July, August. Area maritime.

- c. I. By the tidal waters of the Notter, near Shillingham (var. *b. littorale*).
- II. By the inlet from St. Johns Lake, between Trevol and St. Johns.
- d. III. About Kinterbury Creek.
- IV. On the quay at the further end of the embankment at Saltram ; *b. littorale* ; also *genuinum* on the embankment. By the Plym estuary, near Longbridge.
- V. Clayey spot on the coast, Revelstoke ; " *genuinum* ;" Boswell.

835. *T. acutum*, DC. *Decumbent Sea Couch-Grass.*

Native ; in sandy, clayey, and other waste spots by the coast, or about tidal waters. Rather common. July, August.

- c. II. Sandy shore below Tregantle Fort. Roadside near tidal water,

St. Johns : "The form which it assumes when growing in firm soil ;" *Boswell, Bot. Ex. Club Rep.*, 1876, 39.

d. III. Clayey side of a low cliff near Devil's Point, Stonehouse. The agreement of this with the above, named by Dr. Boswell, leads me to put it here under *acutum*.

VI. In sandy soil at Meadowfoot Cove, Mothecombe.

836. T. junceum, L. Sand Couch-Grass.

Native ; in sand on the coast or by estuaries. Rather rare.
Latter part of June, July.

c. I. Seaton.

II. Tregantle Sands, Whitsand Bay ; *Keys, Fl.* iii. 285.

d. IV. Bovisand ; *Keys, ib.*

VI. By Bigbury Bay, below Ringmore. Meadowfoot Cove, Mothecombe ; and below Pamflete.

LOLIUM, L.

837. L. perenne, L. Common or Perennial Rye-Grass ; 'Heaver.'

Native ; in waste turf spots, pastures, on wall-tops, &c. ; also in fodder fields, being always one of the grasses sown for hay.
Very common. June, July.

On wall-tops and in the turf of gardens in Plymouth. An extremely common species.

838. L. italicum, Braun. Italian Rye-Grass.

Alien ; but now become a Colonist through having been for some time past sown as a fodder grass. In waste places, by roadsides, &c. Common. July to October.

c. I. Crafthole. Latchbrook. Near Notter Bridge.

II. Maker ; *Keys, Fl.* iii. 287. Between Millbrook and St. Johns.
Near Torpoint. Between Kingsmill and Cargreen. Botus Fleming.

d. III. Keyham ; *Brent, Keys, ib.* Plymouth and Saltash Road. Tamerton Foliot.

IV. Eastern Road, between Plymouth and Laira. Oreston. Plymstock. Between Plympton and Plymbridge.

V. Brixton. Yealmpton. Between Yealm Bridge and Flete.

VI. Mothecombe, and between that and Kingston.

839. L. temulentum, L. Darnel.

Casual or Colonist ; among corn and by roadsides. Very rare.
July, or later.

d. III. One plant, with another of the var. *b. arvense*, by the side of the Stoke Road at Pennycomequick, September, 1873.

- IV. Plymstock ; *Mr. Bellamy, Jacob, Fl.* part 17. One plant in the military road between Austen Fort and Knackersknowle, 1870.
- b. *arvense*, With.
- c. II. Near Cotehele ; *Jacob, ib.* Corn-field, Torpoint, 1835 ; specimen, *Herb. Easton*, labelled apparently by Rev. W. S. Hore. Seen some years ago amongst ripe corn caught in the bushes by a lane near St. Johns village ; doubtless brought from some neighbouring field.
- d. III. One plant by the Stoke Road at Pennycomequick, September, 1873.
- IV. Fields near Plymstock ; *Mr. Bellamy, Jacob, ib.* Seen among corn in a field near Egg Buckland village many years ago.
- V. In plenty in three fields of wheat between Whiverton and Butlass farmhouse ; one of the fields just within District iv. One plant seen in an oaten arish between Lynham and Lee Mill Bridge, October, 1879.

The typical plant is but a Casual, but the variety may be a Colonist.

LEPTURUS, R. Br.

840. L. filiformis, Trin. Sea Hard-Grass.

Native ; in salt marshes and in waste or muddy places by tidal waters. Rather common. July.

- c. I. Near Sheviock ; *Jacob, Fl.* part 15.
- II. Trevol, near Torpoint ; *Keys, Fl.* iii. 287. By Millbrook and St. Johns Lakes. Kingsmill.
- d. III. Near Saltash Passage ! ; *Mr. H. Tucker, Keys, Fl.* iii. 286 ; Keyham ; *Holmes, id.* Blaxton. Maristow.
- IV. Saltram ; *Mr. C. A. Johns, Jacob, Fl.* part 15 ; 1873. Catte-down ; near Laira Bridge ; *Holmes, Keys, ib.* On the quay between the embankments by the Eastern Road, and at Crab-tree. Oreston. About Hooe Lake.
- V. By Coffleet Lake.

We have two forms. It seems however that the true *L. incurvatus*, as known on the Continent, does not occur either here or anywhere else in Britain as a Native plant.

First record : *Jacob*, 1836.

HORDEUM, L.

841. H. pratense, Huds. Meadow Barley.

Native ; in marshes, pastures, and turf places. Very rare and local. July, August.

- d. III. ["In a field adjoining Eldad Chapel, Plymouth. It has been noticed here for several years. I gathered specimens last summer ;" *Keys, Phyt.* iii. 1002, 1850. Ground built over several years ago.] On some grass-plots in the town of Plymouth ; in front of Buckland Terrace, at Portland Villas, and Torrington Place.
- IV. Saltram ; Brent ; Tothill, abundant ; *Holmes, Keys, Fl.* iii. 286 ; I have seen it in plenty in a marsh between Tothill and Laira. On the flat between Mount Batten and Jenny Cliff.
- First record : *Keys*, 1850.

842. H. murinum, L. Wall Barley.

Native ; by the sides of footpaths and roads, and in other dry waste places, mostly about towns or villages. Locally common. June to September.

- c. II. Torpoint. Merrifield. Saltash.
- d. III. Pennycomequick, Milehouse, and elsewhere by the Plymouth and Saltash Road. By the southern boundary wall of the Cemetery, Plymouth. About Devonport and Stoke Damerel.
- IV. [On a piece of ground in the middle of Plymouth cleared for the erection of a new Guildhall, &c., July, 1870.] Hoe, 1880. Spots close to Plymouth on the east. Cattedown. Oreston. Turnchapel. Plymstock.
- V. Bridgend.

Partial to places near salt water, and generally growing in very warm situations. It may perhaps be only an introduced species.

NARDUS, L.

843. N. stricta, L. Mat-Grass.

Native ; on moors and commons. Locally common. Latter part of May to July.

- c. I. Viverdon Down. Pillaton Down.
- II. Between St. Mellion and St. Dominick. Hingston Down.
- d. III. Roborough Down.
- IV. Hemerdon. Ringmoor Down. Sheepstor.
- V. Crownhill Down. Dartmoor.
- VI. Dartmoor, near Harford Bridge.

An abundant species on the dry parts of the open moors, but extirpated from extensive tracts through cultivation of the ground.

CRYPTOGAMIA.

(ACOTYLEDONES.)

FILICES.

HYMENOPHYLLUM, Sm.

- 844. H. tunbridgense, Sm.** *The Tunbridge Filmy-Fern.*

Native ; in moss on damp or wet rocks in shady places. Rather rare and quite local.

- d. IV. Supra Dartmoore in Devonia ; *Huds. Fl. Ang.* 461, ed. 2, 1778. Bickleigh Vale ; Shaugh ; *Moore, Hist. Brit. Ferns*, 289. On Sheepstor ; between Cann Quarry and Bickleigh Bridge, on the left bank of the Plym ; *Keys, Fl.* iii. 300.
 V. Cornwood ; *Ravensh. Fl.* 90 ; seen on a damp mass of rock in the Yealm Vale, between the village and Dartmoor, 1879.
 VI. Ivybridge ; *Keys, Fl.* iii. 300.

- 845. H. unilaterale, Willd.** *Wilson's Filmy-Fern.*

Native ; in moss on damp or wet rocks in shady places. Rare.

- d. IV. On rocks above Shaugh Bridge ; *Rev. W. S. Hore, Phyt.* i. 163, 1842. Shaugh Bridge ; Bickleigh Wood ; *Moore, Hist. Brit. Ferns*, 290. Dowerstone, 1861 ; *Keys, Fl.* iii. 301.
 VI. Ivybridge ; *Keys, ib.*

First record : *Hore*, 1842.

PTERIS, L.

- 846. P. aquilina, L.** *Brake or Bracken.*

Native ; on commons, in copses, about woods, and sometimes on hedge-banks. Very common. June, July. Area general.

In the wilder tracts much cut by the countryfolk to dry and use as bedding for pigs, &c. ; and the species beyond all the others of the Order designated *vurn* or *vearn* by them.

LOMARIA, Willd.

- 847. L. spicant, Desv.** *Hard Fern.*

Native ; in dry woods, copses, in hollows on or about commons, and on hedge-banks. Common. June, July.

- c. I. Between Hessendenford and Caracawn. Polbathick. Sheviock. Between Trematon village and Elmgate. Landrake. Cutmere, Viverdon Down.

- II. Near Saltash. Moditonham. St. Dominick. Between Ashland and Harrowbarrow.
- D. III. Keyham, 1841 ; specimen in *Herb. Easton*. Neighbourhood of St. Budeaux. Banks of the Devonport leat channel, Penny-cross, 1874. Warleigh, &c., Tamerton Foliot. Beer Ferrers. Buckland Monachorum. Sampford Spiney. Tavistock.
- IV. Near Egg Buckland village ; at Shalaford, Derriford, Fursdon, &c., in that parish. Newnham. Fancy. Sheepstor. Meavy. Dartmoor.
- V. Langdon. Near Lynham. Cornwood.
- VI. Kingston. Holbeton. Ivybridge. In the Erme Valley below Staddon Barrow, on Dartmoor.

ASPLENIUM, L.

848. A. Ruta-muraria, L. Rue-leaved Spleenwort.

Native ; on walls and in the crevices of rocks. Common. May to September.

- c. I. Wacker. Landrake. Pillaton.
- II. On Mount Edgcombe, behind a seat that commands a view of Plymouth Harbour ; *W. Pamplin, Phyt.* iii. 170 ; in article entitled, "List of plants recorded in MS. in a copy of Blackstone's *Specimen Botanicum*." In the List the fern appears as *Polypodium murale pinnulis serratis*. Bridge over the Tamar (New Bridge) ; *Jones, Tour*, 40. In crevices of slaty rock at an old quarry near Trevol. Millbrook. Torpoint. Saltash. Gunnislake.
- D. III. Stoke ; Mutton Cove, &c., Devonport ; *Keys, Fl.* iii. 298 ; plentiful at Stoke, 1880. Wall by Reservoir, North Road, Plymouth. On limestone rock near Devil's Point. Burleigh. Denham Bridge. Horrabridge.
- IV. Walls in Tothill Lane and other old streets and lanes in the outskirts of Plymouth ; rocks under the Hoe ; on the rocks as well as in the crevices of old walls at Cattedown ; Compton ; Plymstock ; *Keys, ib.* The commonest fern quite in the town of Plymouth, where it occurs at Jubilee Street, Lockyer Street, &c. Turnchapel. Fursdon, Egg Buckland. Shaugh.
- V. Wembury. Brixton. Lee Mill Bridge. Cornwood.
- VI. Ivybridge ; *Keys, ib.* Near Flete. Ludbrook. Near Modbury.

849. A. Trichomanes, L. Common Spleenwort.

Native ; on rocks, hedge-banks, and walls. Very common. June to October or November.

- c. I. Between Hessenford and the coast. Between Trerule and Cutmere Bridge. Between Latchbrook and Notter Bridge, and

Trevollard, St. Stephens. St. Mellion. Clapper Bridge. New Bridge.

- II. On the bridge over the Tamar; *Jones, Tour*, 40. Between Torpoint and Antony. Between Cotehele and Cleave. St. Dominick. Cargreen.
- D. III. Wall by the churchyard, and elsewhere at Stoke Damerel. Tamerton Foliot. Buckland Monachorum. Tavistock.
- IV. Gore. Plymouth and Totnes Road. Bickleigh. Newnham. Vale between Sheepstor and Lethitor, Dartmoor. Hoomeavy.
- V. Brixton. Near Lee Mill Bridge. Cornwood.
- VI. Mothecombe. Flete. Ivybridge. Harford.

A specimen of the curious variety *incisum*, labelled "A. *Trichomanes*, var., near Virtuous Lady Mine, Devon" (District III.), is contained in *Herb. Easton*.

850. A. marinum, L. Sea Spleenwort.

Native; in caves and hollows on the coast cliffs, and on rocky shaded banks by tidal waters. Rather common. June to August, or later.

- c. I. Cliff at Seaton. Small and sparingly on a low cliff near Shillingham Point, 1878.
- II. Mount Edgcumbe; *Holmes*; Whitsand Bay! and Cawsand; *Keys, Fl.* iii. 298.
- D. III. Devil's Point!; *T. W. Gissing, Phyt. i. N.S.* 28. By Tamerton Lake, sparingly. Cliff by the Tamar, near Holes Hole; one plant seen, 1878.
- IV. Under the Hoe; *Keys, S. D. Lit. Chron.* 385; in crevices of the rocks, very small, not more than from one to three inches long; under the Citadel, Plymouth, small, except in one or two inaccessible spots, where it attains considerable length, say from ten to twelve inches; Bovisand, where it grows very large; *id., Fl.* iii. 297. Still under the Hoe in some quantity, and not confined to one spot, 1880.
- V. Sparingly on the coast near Heybrook, 1876. By the tidal water near Kitley.
- VI. By Bigbury Bay, below Kingston.

851. A. lanceolatum, Huds. Lanceolate Spleenwort.

Native; on rocks, walls, and hedge-banks. Rather rare and local, occurring only in certain spots scattered over a wide extent of country. June to September, or later.

- c. I. Near Crafthole, 1854; *Mr. Westcott, Keys, Fl.* iii. 296.
- II. Calstock, in a stone hedge at the upper part of the village; *Keys, ib.*; seen in that neighbourhood, 1879, &c. Near Rame Head, 1877, &c.

- D. III. Morwell Rocks ; *Gould. and Harper, S. D. Lit. Chron.* 143 ; by the Tamar lower down the river, 1876. Buckland Monachorum ; by the Tavy ; *Moore, Hist. Brit. Ferns*, 268, 69 ; seen in many places in Buckland Monachorum parish. Virtuous Lady Mine ! abundant ; *Keys, ib.* Some small plants on a hedge-bank near St. Budeaux, 1879. Sparingly near Blaxton. In small quantity in one place between Denham Bridge and Beer Alston, 1875. In one spot between Horrabridge and Plaster Down. Sampford Spiney.
- IV. By the Plym, near Cann Quarry ; Bickleigh Vale ; *Hore, Moore, Hist. Brit. Ferns*, 269 ; I have seen it in the Plym Valley, mostly on rocks in inaccessible places. Shaugh ; *Keys, S. D. Lit. Chron.* 385 ; seen in different spots in that neighbourhood. Dry bank in the parish of Plymstock. Hemerdon. Upperton, Bickleigh. Goodameavy. Meavy. Lovaton, and elsewhere in the neighbourhood of Sheepstor.
- V. Near Dalamore, and elsewhere in the parish of Cornwood.
- VI. Lukesland, sparingly, 1875. In considerable quantity in a lane below the Western Beacon, 1877. Near Stowford ; a single plant.

Occurs mostly in the semi-moorland parishes, or in places not far from tidal waters ; yet, looking at the entire area, the distribution of this fern is somewhat peculiar. It has been stated to grow on "wet rocks," which it certainly does not here.

852. A. *Adiantum-nigrum*, L. *Black Spleenwort.*

Native ; on hedge-banks, walls, and rocks. Very common. June to November. Area general.

Occurs close to Plymouth, and is one of the commonest ferns between the stones and in dry little hollows on the sides of the hedge-banks of the enclosed country, extending to the vicinity of Dartmoor. Occasionally found, very small, on walls in the town of Plymouth itself.

ATHYRIUM, Roth.

853. A. *Filix-fœmina*, Bernh. *Lady Fern.*

Native ; in damp places and about springs in woods ; by rivers, streams, and bogs, and on shady hedge-banks in cool or wet situations. Very common. June to September. Area general.

Extends to Dartmoor, where it occurs by the streams and under the shelter of masses of rock.

Very variable : a small form, with remarkably light yellowish-green fronds and very convex pinnules, is frequent in bogs and open swampy places in woods ; it appears to be *A. convexum*, Newm., *A. rhæticum*, Roth. Another, which seems to come best under *A. Filix-fœmina*, Roth.,

as described by Babington, has deep green pinnæ and purple rachis ; a third, var. *molle*, has light green flat fronds, of much smaller size than those of the preceding one : it occurs here and there in lanes.

CETERACH, Willd.

854. C. officinarum, Willd. Scaly Spleenwort.

Native ; on old walls ; more rarely on rocks or stony banks.

Rather common. April to November.

- c. I. Sparingly on a wall between Wacker and Denabole Mills. A few plants on a wall at St. Mellion. One on a wall at Latchbrook, St. Stephens.
- II. On the bridge over the Tamar (Newbridge) ; *Jones, Tour*, 40. Calstock ; Pentillie Castle ; *Moore, Hist. Brit. Ferns*, 283. Torpoint ! ; Saltash ! ; *Keys, Fl.* iii. 299. Seen in several places within a mile or two of Torpoint, as well as very near the village. Southdown. Between Pelters Cross and Cargreen. Halton. Cotehele. Gunnislake.
- d. III. Near Blaxton ! ; *Keys, ib.* Near Pounds, Pennycross. Neighbourhood of St. Budeaux and Saltash Passage, in considerable quantity. In plenty on a wall at Down House, near Knackersknowle. Tamerton Foliot. Lophill. Beer Alston. Wear Quay.
- IV. [Wall at the top of North Street] ; Cattedown ; *Keys, S. D. Lit. Chron.* 268. I have two specimens which I collected from the wall in North Street, Plymouth, in October, 1867, shortly after which it was taken down to widen the street, and the fern was all destroyed. Compton ! ; churchyard wall, Meavy ; *id., Fl.* iii. 299. Furze Hill Lane, close to Plymouth ; a few very small plants, 1880 ; known as growing there for many years past. Neighbourhood of Plymstock. Saltram. Estover and near Rumble, Egg Buckland. Fancy. Plympton ; a single plant seen on a wall, 1868.
- V. Yealmpton ! ; *Keys, ib.* ; also at Torr. Elburton. Brixton and Winston, sparingly. Between the stones of a hedge-bank between Smithalee and Lee Mill Bridge. Lee Mill Bridge, rather sparingly, 1879.
- VI. Ivybridge ; *Keys, ib.* ; seen near there by the Exeter Road. Ermington. On walls by a farm-house near Caton. Modbury. Absent from the colder and wild open tracts. It occurs mostly on walls, and when elsewhere nearly always appears on some artificially formed, not natural, bank. Even in the two or three instances in which I have seen it on natural rock it has been on the surface of "cuttings" made by man.

First record : *Jones*, 1820.

SCOLOPENDRIUM, Sw.

- 855. S. vulgare, Sym.** *Hart's-tongue.*

Native ; in damp woods, on shady hedge-banks, and in the crevices of rocks. Very common. June to August, or later. Area general.

One of the commonest of the ferns. Very variable. Plants with all or some of the fronds bifid or multifid are often found. This species occurs on the damp wall of a storehouse in Vauxhall Street, Plymouth ; several plants there, 1880.

CYSTOPTERIS, Bernh.

- 856. C. fragilis, Bernh.** *Brittle Bladder Fern.*

Native ; on walls. Very rare. June to September.

d. V. Four plants or patches, one on an exposed wall, the rest on a neighbouring shaded one, in the parish of Cornwood, 1865 ; still at the latter spot, 1874 ; ten plants seen there, 1879.

I cannot be held responsible for the opinions attributed to me in *Flora of Devon and Cornwall* concerning two ferns, said to be *fragilis*, collected by Mr. Holmes at Woodside and Bickleigh. I remember the fact of Mr. Holmes showing them to me many years ago.

ASPIDIUM, Sw.

- 857. A. aculeatum, Sw.**, inclusive of var. *b. lobatum*. *Common Prickly Shield-Fern.*

Native ; on hedge-banks and other bushy places. Rather rare, and sparsely, though widely, distributed. Part of June to September.

c. II. Between Maker Church and Millbrook ; near Cawsand ; *Keys, Fl.* iii. 293. Lane near Moditonham, very sparingly. One plant on a hedge-bank at Calstock, 1879. On a dry exposed hedge-bank near St. Dominick ; also seen many years ago in a small wood there.

d. III. Sparingly on exposed hedge-banks near Roborough.

IV. Efford Lane and Widey, near Plymouth ; *Keys, Fl.* iii. 293 : a single small plant near the latter place, 1877. Sparingly on some hedge-banks in Egg Buckland parish ; a specimen collected not far from the village considered by Baker "good *aculeatum*." Near Plympton, on hedge-banks.

V. Between Puslinch and Lolesbury. Between Ridgway and Ivybridge. Two or three plants near Mount Pleasant, 1879.

VI. Ivybridge ; *Mrs. Applebee* ; near Ermington, 1852 ; *Banker, Keys, Fl.* iii. 293 : many plants seen in the latter neighbourhood, 1878 ; placed by Keys under var. *lobatum*, but if obliged to divide this from the type, I would rather call them *aculeatum genuinum*. Lane between Sequers Bridge and Kingston.

Mr. Watson, on receiving a specimen from District II. some years ago, wrote of it as "one of those intermediate forms which defy separation between *aculeatum* and *lobatum*." In the case of other local examples I have found it impossible to assign them severally to either with any confidence, and consequently have combined variety and type.

This species is more one of exposed elevated spots than is *A. angulare*, though it is by no means confined to such places.

858. A. angulare, Willd. *Angular-lobed Shield-Fern.*

Native ; on hedge-banks, especially in shady spots ; in woods and other bushy places. Common. June to September.

- c. I. Sheviock. Between Burraton and Notter Bridge, St. Stephens. Antony.
- II. Saltash. Carkeel. Landulph.
- d. III. Pennycross, in plenty. Tamerton Foliot. Beer Ferrers. Sparingly in one or two places between Horrabridge and Tavistock.
- IV. One of the frequent ferns in lanes near Plymouth. Radford. Egg Buckland, in plenty. Plympton. Newnham.
- V. Wembury. Newton Ferrers. Brixton. Between Ridgway and Ivybridge.
- VI. Pamflete. Holbeton. Kingston.

In certain neighbourhoods this is very abundant, whilst in others, especially in the colder parts of the area, it is altogether absent, or but sparsely met with. In the lanes near Plymouth it is unfortunately much reduced in quantity through the roots being dug up for sale or to plant in gardens.

So late in the spring as the first week in May I have seen fronds of this fern, together with those of *Nephrodium Filix-mas* and *Pteris*, much injured by frost.

NEPHRODIUM, Rich.

859. N. Filix-mas, Presl. *Male Fern.*

Native ; on hedge-banks, in woods, bushy and rocky places. Very common. June, July. Area general.

One of the commonest ferns. The handsome and striking variety *Borreri*, Newm., is very general, occurring in plenty in all the Districts, and extending to Dartmoor. It occurs associated with ordinary *Filix-mas*, so that its noticeable tint and other peculiarities seem in no way dependent on soil or situation. I am not sufficiently familiar with the marks of var. *affine* to speak of its distribution apart from that of the type form.

860. N. spinulosum, Desv. *Narrow Prickly-toothed Fern.*

Native ; in bogs and swampy places in woods and copses. Rare and local. June to August.

- c. I. In plenty in a swamp in a large wood to the left of the road from Seaton to Hessenford, growing about old and immense root-stocks of *Carex paniculata*, 1875.
- d. III. Under low trees on the banks of the Walkham, near Virtuous Lady Mine, 1871; *Keys, Fl.* iii. 292; in plenty about some swampy spots in that neighbourhood, 1879. Sparingly in Warleigh Wood.
- IV. In many moist and wet spots in the vicinity of the Plym Valley, between Longbridge and Bickleigh; seen in this neighbourhood four feet high.

861. N. dilatatum. *Broad Prickly-toothed Fern.*

Native; in woods, on banks, and in rocky places. Very common. June to August, or later. Area general.

Found all over the country, open and enclosed. It grows on Dartmoor under the shelter of large rocks. Sometimes the pinnules are remarkably convex. Always distinguishable from both *spinulosum* and *æmulum*.

862. N. æmulum, Baker. *Triangular Prickly-toothed or Recurved Fern.*

Native; on hedge-banks, in wooded places, and in hollows between stones. Rather common, but not in great abundance anywhere. June to September.

- c. I. Wood on the left of the road from Seaton to Hessenford. Sheviock. Polbathick. Near Antony. Sparingly between Leigh and Moditon Mill, 1874. One plant near Trematon, 1869. Neighbourhood of Pillaton and Clapper Bridge. St. Mellion.
- II. Very sparingly in a lane between St. Johns and Lower Tregantle, 1873. Between St. Mellion and Callington, ascending to 600 feet. Lane near Dupath, 1879.
- d. III. Banks of the Walkham; *Keys, Fl.* iii. 293. A few plants on a bank in a lane near Whitleigh, 1868. In a lane leading from Blaxton towards Horrabridge. Between Beer Alston and Gawton Quay, one plant, 1864; two or three on a hedge-bank between Denham Bridge and Beer Alston, 1875.
- IV. Bickleigh Vale; Shaugh; *Keys, Fl.* iii. 292, 93. Seen at Fursdon, Poole Hill, and Common Wood, Egg Buckland, but at neither place very recently. Neighbourhood of Dowerstone. Very sparingly near Hele farm-house, Bickleigh, 1874. Neighbourhood of Sheepstor. About Meavy. Torey Valley, near the clay works.
- V. Stretchley, sparingly. Near Wiverton, in small quantity. Wood near Fardel. Lane between Cornwood and Ivybridge.

VI. Near Ivybridge ; *Julian, Keys, Fl.* iii. 293. Holbeton. Worthill, Ermington. Between Strood and Modbury.

863. N. Oreopteris, Presl. *Sweet Mountain Fern.*

Native ; in woods, copses, and other bushy places ; also on banks on and about commons and moors. Locally common. June to August.

- c. I. Between Polbathick and Hessenford ! ; *Balkwill, Keys, Fl.* iii. 291. Wood between Seaton and Treloy. Notter Valley, near Clapper and New Bridges. Between St. Mellion and Pillaton. Viverdon Down.
- II. Harewood ; *Keys, ib.* Danescombe. St. Dominick. Between Ashland and Harrowbarrow.
- d. III. Roborough Down ; *Phyt. vi. N.S.* 355. Between Blaxton and Inchers. Near Hatch Mill.
- IV. Shaugh Bridge ; between Cann Quarry and Bickleigh Bridge, left bank of the Plym ; near Ubbaton, Bickleigh ; *Keys, Fl.* iii. 291. Woods of the Plym Valley, and near Derriford, Egg Buckland. Hemerdon. Newnham. Meavy. Torey Valley, below Lee Moor. Lower Whittleborough. Ringmoor Down.
- V. Near Dalamore and Slade, &c., Cornwood. About Broadall Brook, between Cornwood and Dartmoor.
- VI. Ivybridge ! ; *Keys, ib.* In the Erme Valley, on Dartmoor.

Occurs nowhere within three miles of the town of Plymouth. Most frequent in elevated wooded and semi-moorland tracts ; and is found in little hollows and bushy spots on the wilder parts of Dartmoor. When very luxuriant I have seen fronds nearly four feet long. At some of the stations named it grows in profusion.

POLYPODIUM, L.

864. P. vulgare, L. *Common Polypody.*

Native ; on the mossy or decaying branches of trees, on rocks, banks, and walls. Very common. September to November. Area general.

Occurs on walls close to the town of Plymouth, though here generally of small size.

865. P. Phegopteris, L. *Beech Polypody.*

Native ; on banks and in rocky or stony places in moorland or semi-moorland localities. Rare and local. June to September.

- d. IV. Sheepstor ; *Moore, Hist. Brit. Ferns*, 311 : I have seen it in that neighbourhood. Valley of the Meavy ; *Rev. J. M. Chanter, Ravensh. Fl.* 81. Shaugh Bridge ; *Gould., Keys, Fl.* iii. 290.
- V. Cornwood, above the waterfall ; *Holmes, Keys, ib.* Valley of the Yealm, on Dartmoor, 1879.

866. **P. Dryopteris, L.** *Oak Polypody.*

Native ; on, or in the vicinity of, open moorland. Very rare.
June, July, or later.

d. V. Cornwood Moors ; *Mr. J. B. Yonge* : this gentleman kindly communicated, in 1879, the fact of his having found the plant eighteen years previous.

VI. Lane leading from Harford to Ivybridge ; *Miss J. Gray*, 1858, *Ravensh. Fl.* 81.

In June, 1879, I found this growing on Dartmoor, though some miles beyond the area of the *Flora*.

OSMUNDA, L.867. **O. regalis, L.** *Royal or Flowering Fern.*

Native ; in damp places about rivers or streams ; in swamps and bogs, especially in a peaty soil. Rather common. July.

c. I. Sparingly in the Seaton Valley between Hessenford and the coast. Notter Valley. Neighbourhood of Pillaton. Border of Viverdon Down.

II. Penlee Point, 1864 ; *Keys, Fl.* iii. 301. Below Hingston Down. Gunnislake.

d. III. Manadon Wood ; *id. et ib.* Whitleigh Wood. Between Blaxton and Inchers, sparingly in Warleigh Wood, &c., Tamerton Foliot. Near Tamar House, 1868, damp spot below a wood on the right bank of the Tavy, Beer Ferrers.

IV. Bickleigh Vale ; Leigham ; Shaugh ; *Keys, ib.* Derriford. In boggy places about small tributaries of the Plym between Plymbridge and Shaugh Bridge. Lee Moor. Crownhill Down.

V. Cornwood ! ; *Keys, ib.* By Broadall Brook.

VI. Near Ivybridge, on the banks of the Erme ! ; *Bot. Tour*, 14.

Considerably reduced in quantity through the plants being dug up and brought for sale to Plymouth and other large towns. All who value and wish to preserve the natural floral and vegetable beauties of the neighbourhood should do their utmost to prevent and discourage the selling in the streets of recently-uprooted plants of the *Osmunda* and of our other ferns and wild plants.

First record : *Jones*, 1820.

OPHIOGLOSSUM, L.868. **O. vulgatum, L.** *Common Adder's-tongue.*

Native ; in pastures and meadows, especially in a damp or peaty soil. Rather rare. May, June.

c. I. Pasture at Landrake ; found very sparingly, May, 1880.

II. Mount Edgcumbe Park, very sparingly, 1877 ; *Mr. W. B. Water-*

fall. In small quantity in a peaty enclosure from Hingston Down, 1880.

- d. III. Meadow near Horrabridge, by the road to Tavistock; fairly plentiful, 1880.
- IV. In three meadows in the parish of Egg Buckland; in 1871 many dozen plants in a wood there, but not seen recently in this situation. In some pasture and heathy land between Plympton and Dartmoor; in some spots associated with *Botrychium*.
- V. In pasture land by Crownhill Down. Near Venton, at Lutton, Blachford, and near Beechwood, all in the neighbourhood of Cornwood.

Probably often overlooked, and so commoner than it appears to be. There is no record for District vi., but it is likely to be met with in the neighbourhood of Ivybridge.

BOTRYCHIUM, *Sw.*

869. B. Lunaria, *Sw.* Moonwort.

Native; in elevated old turf pastures and waste heathy land. Rare and local. Part of May, June.

- c. II. Hingston Down; *Jour. R. Inst. Corn.* iii. Kit Hill; *Mr. H. Hodge*, 1862, *Keys, Fl.* iii. 302. Kit Hill being part of Hingston Down, these records refer to one locality. Three plants seen in a narrow turf strip of ground by the turnpike road between St. Mellion and Callington, 1880.
- d. III. A single plant on the southern extremity of Roborough Down, near the Plymouth and Tavistock Road, 1870.
- IV. Between Shaugh and Cadover Bridge; *Brent, Keys, ib.* In considerable quantity in some turf pastures lying between Plympton and Dartmoor.
- V. In a rough turf pasture enclosed from Crownhill Down; about a dozen plants; in the same locality *Gnaphalium sylvaticum*, 1871.

In several spots associated with *Ophioglossum*, but not descending nearly so low as that species.

LYCOPODIACEÆ.

LYCOPODIUM, *L.*

870. L. clavatum, *L.* Common Club-moss.

Native; on moors or commons. Very rare.

- c. II. Hingston Down; *Jour. R. Inst. Corn.* iii.; perhaps on the portion of the common a little beyond the area.
- d. IV. On the moor near Cadover Bridge; *Mr. F. Brent*.

871. *L. Selago, L.* *Fir Club-moss.*

- Native ; in peaty bogs and damp places on commons. Very rare.
- c. III. A single plant by one of the leats on Roborough Down, 1861.
- IV. Three in a bog on Wigvor Down, 1862. In fair quantity in a bog near Collard Tor, 1880.
- V. One in a boggy spot in an enclosure by Crownhill Down, 1871.
- Grows in greater quantity on a portion of Dartmoor beyond the area.
-

EQUISETACEÆ.

EQUISETUM, *L.*872. *E. arvense, L.* *Corn-field Horsetail.*

Native ; in damp and clayey places by roadsides, in fields, and on low moist hedge-banks. Very common. April. Area general.

The commonest species, extending from the coast to the semi-moorland tracts. A form with the barren stems decumbent occurs in sand by Bigbury Bay.

873. *E. palustre, L.* *Marsh Horsetail.*

Native ; in damp meadows, marshes, and other moist places. Rather common. May to September.

- c. I. In the Seaton Valley between Hessenford and the coast.
- II. In a damp place in a field through which is the pathway from St. Johns village to the Millbrook and Tregantle Road.
- d. IV. In or about the marshes between Longbridge and Plympton St. Mary Church ; also in a meadow between Colebrook and Newnham.
- V. Yealmpton, and at Yeo in that neighbourhood. Yealm Vale, between Weston Mill and Lee Mill Bridge. Ford. Slade.
- VI. Roadside at Sequers Bridge and near Ermington village, also between it and Ludbrook.

874. *E. limosum, L.* *Water or Smooth Naked Horsetail.*

Native ; about drains in marshes, in wet meadows and swampy places. Common. Part of April to June, or later.

- c. I. Between Seaton and Hessenford. Sconner. Near Trerule. Latchbrook. Notter Bridge. Cutmere.
- II. Banks of the Tamar near Calstock (as var. *fluviale*) ; *Keys, Fl.* iii. 289 ; I have seen both the forms near Weir Head. Swamp in a wood between Hatt and Kingsmill.
- d. III. Vale between Weston Mills and Honicknowle. Gawton, Beer Ferrers. Near Tavistock.

- IV. Swampy ground in a meadow between Goosewell and Radford, Plymstock. Marsh at Shalaford, Egg Buckland. Pool in a meadow between Marsh Mills and Colebrook; perhaps now destroyed.
- V. Swamp in a field by the path between Staddiscombe and Knighton villages. Fordbrook. Near Venton and Beechwood, in the neighbourhood of Cornwood.
- VI. By Bigbury Bay, below Ringmore. Near Ivybridge. Hanger Down.
-

C H A R A C E Æ .

CHARA, L.

875. C. opaca, A. Br.

Native; in slow streams and ditches. Rather rare.

- c. I. In the mill-stream from the Tidy at Heskyn, near Tideford.
“The female plant of *Nitella (C.) opaca*.” Mr. H. Groves, in lit.
- d. III. In the stream of the Devonport leat at Pennycross, 1875.
- IV. Drain by Chelson Meadow, below Saltram grounds. Canal at Plymbridge.

876. C. foetida, Braun.

Native; in a pool. Very rare; perhaps now extinct.

- d. V. Pool at Blackpool, near Harestone, 1866; specimens poor, and slight doubt attaches to the name given.

ADDITIONS AND CORRECTIONS.

Page 4, line 24, for 3 read 4.

- 6, species 11. *R. auricomus*, L. iv., add, Rather sparingly in a wooded spot a little above Longbridge, 1880.
- 24, 51. *Arabis hirsuta*, Br., add, c. II. Cremyll, June, 1850 ; specimen, *Herb. Gould*.
- 30, 62. *Draba verna*, L., add, after the name, Native.
- 59, 124. *Hypericum dubium*, Leers. I., add, Two small patches in a hilly pasture near Notter Bridge, 1880.
- 87, 180. *Trifolium incarnatum*, L. *Dele* all except the T. of the first word.
- 96, 203. *Vicia bithynica*, L., for IV. read VI.
- 106, 220. *Alchemilla vulgaris*, L. iv., add, after the extract from *Jacob, Fl.*, In considerable quantity in a peaty pasture in that neighbourhood, 1880.
- 124, line 42, for District III. read IV., as also in line 5 of page 125.
- 146, 282. *Pyrus communis*, L., c. *Briggsii*, iv., add, Three very stunted bushes by Coleridge Lane, Egg Buckland : without flowers, but in leaves and branches exactly like the bushes at the other station in the parish, 1880.
- 150, 286. *Epilobium angustifolium*, L., add, VI. Flete, August, 1850 ; specimen, *Herb. Gould*.
- 155, add,
- 296 bis. ***Myriophyllum alterniflorum*, D.C.** Alternate-flowered Water Milfoil.
Native ; in a pond. Very rare ? June.
- D. v. In a large pond at Dalmore, Cornwood ; flowering, June, 1880. Not readily distinguishable from *M. spicatum*, except when in flower or fruit. The plants at several of the stations named under *M. spicatum* have never been seen with either, and perhaps some of them really belong to this species.
- 165, 318. For *Heliosciadium* read *Helosciadium*.
- 170, 327. *Oenanthe pimpinelloides*. IV., add, Two or three plants still at the Hoe ; June, 1880.

187, 367. *Valerianella carinata*, Lois. I., add, Tideford.

Page 207, 414. *Inula crithmoides*, L., add, I. In considerable quantity by Whitsand Bay, a little west of Tregantle Fort, 1880. The quotation from *Jacob, Fl.*, given under II., should now precede the present entry. 'District III.' should have been IV.

229, 461. *Menyanthes trifoliata*, L. I., add, Notter Bridge, 1880.

251, for Labiateæ read Labiatæ.

264, 534. *Melittis Melissophyllum*, L. I., add, after Tideford, A plant with spotless white flowers between this and St. Germans, 1880.

281, 567. *Lysimachia vulgaris*, L., add, III. Swamp in a wood on the Devon side of the Tamar, just above New Bridge, 1880 : perhaps identical with Jacob's "Banks of the Tamar, near the Weir Head," quoted as belonging to District II.

292, 598. *Atriplex arenaria*, Woods., for II. read I.

300, 619. *Polygonum Bistorta*, L. IV., add, With *Alchemilla vulgaris*, in a hilly pasture near a house a little below Cadover Bridge. v. Meadow, Slade, 1880.

316, 654. *Salix repens*, L. IV. add, Several bushes by the tramway near Lee Moor Clay Works, 1880.

320, 667. *Zannichellia pedicillata*, Fries. Insert after the name, Native, in brackish water. Very rare.

321, 671. *Triglochin palustre*, L. I., add, Notter Bridge, 1880.

325, 681. *Gymnadenia conopsea*, Br. IV., add, About a dozen small flowering plants on Crownhill Down, 1880.

LIST OF SPECIES FOUND IN BOTH DEVON AND CORNWALL, BUT ABSENT FROM THE PLYMOUTH LIST.

Species of which the occurrence is doubtful have a query attached.

<i>Thalictrum minus</i>	<i>Myosotis palustris</i>
<i>Ranunculus fluitans (?)</i>	<i>Anchusa arvensis</i>
<i>R. Lingua</i>	<i>Utricularia vulgaris</i>
<i>Fumaria pallidiflora</i>	<i>Chenopodium urbicum</i>
<i>Crambe maritima</i>	<i>C. rubrum</i>
<i>Brassica oleracea</i>	<i>Polygonum maritimum</i>
<i>Viola Curtisiae</i>	<i>P. mite (?)</i>
<i>Cerastium pumilum</i>	<i>Ceratophyllum aquaticum</i>
<i>Sagina nodosa</i>	<i>Salix ambigua</i>
<i>Corrigiola littoralis</i>	<i>Lemna trisulca</i>
<i>Geranium sanguineum</i>	<i>Potamogeton perfoliatus</i>
<i>Oxalis stricta</i>	<i>Alisma ranunculoides</i>
<i>Ononis spinosa (?)</i>	<i>Scilla verna</i>
<i>Trifolium maritimum (?)</i>	<i>Juncus obtusiflorus</i>
<i>T. suffocatum</i>	<i>Schoenus nigricans</i>
<i>T. fragiferum</i>	<i>Scirpus aciculatus</i>
<i>Helosciadium inundatum</i>	<i>S. pauciflorus</i>
<i>Enanthe fistulosa</i>	<i>Eriophorum latifolium</i>
<i>Galium uliginosum</i>	<i>Carex divisa</i>
<i>Scabiosa columbaria</i>	<i>C. disticha</i>
<i>Centaurea Calcitrappa</i>	<i>C. curta (?)</i>
<i>Chrysanthemum Chamomilla</i>	<i>Cynodon Dactylon</i>
<i>Erigeron acris</i>	<i>Phleum arenarium</i>
<i>Erythræa littoralis (?)</i>	<i>Glyceria aquatica</i>
<i>Chlora perfoliata</i>	<i>Adiantum Capillus-Veneris</i>
<i>Gentiana Amarella</i>	<i>Lycopodium inundatum</i>
<i>Scrophularia Scorodonia</i>	<i>Pilularia globulifera</i>
<i>Linaria repens</i>	<i>Equisetum maximum</i>
<i>Lathræa squamaria</i>	<i>Chara fragilis</i>

SPECIES FOUND IN CORNWALL, BUT WANTING IN THE
PLYMOUTH LIST.

<i>Ranunculus intermedium</i>	<i>Echium plantagineum</i>
<i>Nymphaea alba</i>	<i>Utricularia neglecta</i>
<i>Alsine verna</i> (Gerardi)	<i>U. minor</i> (?)
<i>Herniaria ciliata</i>	<i>Juniperus communis</i>
<i>Illecebrum verticillatum</i>	<i>Arum italicum</i>
<i>Elatine hexandra</i>	<i>Iris tuberosa</i>
<i>Genista pilosa</i>	<i>Asparagus officinalis</i>
<i>G. tinctoria</i>	<i>Allium Ampeloprasum</i>
<i>Trifolium Molinerii</i>	<i>A. sibiricum</i>
<i>T. Bocconi</i>	<i>A. triquetrum</i> (escape?)
<i>T. strictum</i>	<i>Juncus capitatus</i>
<i>Hippuris vulgaris</i> (?)	<i>J. pygmaeus.</i>
<i>Carum verticillatum</i>	<i>Cyperus longus</i>
<i>Sium angustifolium</i> (?)	<i>Cladium Mariscus</i>
<i>Hypochaeris maculata</i>	<i>Rhynchospora fusca</i> (?)
<i>Lactuca muralis</i> (?)	<i>Carex dioica</i> (?)
<i>Erica ciliaris</i>	<i>Triticum caninum</i> (?)
<i>E. vagans</i>	<i>Hordeum maritimum</i>
<i>Cicendia filiformis</i>	<i>Chara translucens</i>
<i>Orobanche cærulea</i>	<i>C. crinita</i>
<i>O. rubra</i>	<i>C. aspera</i>
<i>Mentha pubescens</i>	<i>C. fragifera</i>

SPECIES FOUND IN DEVON, BUT WANTING IN THE
PLYMOUTH LIST.

<i>Myosurus minimus</i> (?)	<i>Cicendia filiformis</i> (?)
<i>Meconopsis cambrica</i>	<i>Cuscuta europaea</i>
<i>Fumaria muralis</i> (?)	<i>Calamintha sylvatica</i> (?)
<i>Matthiola sinuata</i>	<i>Teucrium Scordium</i>
<i>Cardamine impatiens</i>	<i>Lithospermum purpureo-cæruleum</i>
<i>Helianthemum vulgare</i>	<i>Pinguicula vulgaris</i>
<i>H. polifolium</i>	<i>Utricularia intermedia</i> (?)
<i>Drosera anglica</i> (?)	<i>Statice Limonium</i>
<i>Dianthus deltoides</i>	<i>Salicornia radicans</i>
<i>Silene nutans</i>	<i>Polygonum dumetorum</i> (?)
<i>Stellaria aquatica</i>	<i>Empetrum nigrum</i>
<i>S. glauca</i> (?)	<i>Euphorbia hiberna</i>
<i>Tilia parvifolia</i>	<i>Salix purpurea</i>
<i>Genista tinctoria</i> (?)	<i>Acorus Calamus</i>

<i>Hippocrepis comosa</i>	<i>Lemna gibba</i>
<i>Vicia gracilis</i>	<i>L. polyrhiza</i>
<i>V. Orobus</i>	<i>Potamogeton lucens</i>
<i>V. sylvatica</i>	<i>P. heterophyllus (?)</i>
<i>Lathyrus Aphaca</i>	<i>P. densus (?)</i>
<i>Rubus Leesii</i>	<i>Sagittaria sagittifolia</i>
<i>Rosa Sabini</i>	<i>Butomus umbellatus</i>
<i>Pyrus Aria</i>	<i>Hydrocharis Morsus-ranæ</i>
<i>Hippuris vulgaris</i>	<i>Orchis ustulata</i>
<i>Callitricha autumnalis (?)</i>	<i>Listera cordata</i>
<i>Sedum rupestre</i>	<i>Epipactis palustris</i>
<i>Chrysosplenium alternifolium</i>	<i>Malaxis paludosa</i>
<i>Trinia vulgaris</i>	<i>Trichonema Columnæ</i>
<i>Carum verticillatum (?)</i>	<i>Leucojum aestivum</i>
<i>Sium latifolium</i>	<i>Asparagus officinalis (?)</i>
<i>S. angustifolium (?)</i>	<i>Juncus acutus</i>
<i>Bupleurum aristatum</i>	<i>Scirpus parvulus</i>
<i>B. tenuissimum (?)</i>	<i>S. Holoschoenus</i>
<i>Silaus pratensis</i>	<i>S. lacustris (?)</i>
<i>Torilis infesta</i>	<i>Carex teretiuscula (?)</i>
<i>Myrrhis odorata</i>	<i>C. digitata (?)</i>
<i>Asperula cynanchica</i>	<i>C. filiformis (?)</i>
<i>Valeriana dioica</i>	<i>Spartina stricta</i>
<i>Dipsacus pilosus</i>	<i>Alopecurus fulvus (?)</i>
<i>Carduus pratensis</i>	<i>Calamagrostis lanceolata (?)</i>
<i>C. acaulis</i>	<i>Festuca uniglumis</i>
<i>Artemisia maritima</i>	<i>Bromus madritensis</i>
<i>Senecio squalidus</i>	<i>Brachypodium pinnatum</i>
<i>Chrysocoma Linosyris</i>	<i>Triticum caninum</i>
<i>Hypochaeris glabra</i>	<i>Elymus arenarius (?)</i>
<i>Lactuca muralis</i>	<i>Hordeum maritimum</i>
<i>Hieracium murorum</i>	<i>Cryptogramme crispa (?)</i>
<i>H. pallidum (?)</i>	<i>Asplenium septentrionale</i>
<i>H. tridentatum</i>	<i>Equisetum sylvaticum</i>
<i>Lobelia urens</i>	<i>E. variegatum</i>
<i>Campanula Trachelium</i>	<i>Chara connivens.</i>

DISTRIBUTION OF SPECIES IN THE AREA OF THE FLORA.

Species.				Districts.					Page
Clematis Vitalba	.	.	1	2	3	4	5	6	3
Anemone nemorosa	.	.	1	2	3	4	...	6	4
Ranunculus circinatus	.	.	...	...	...	...	..	6	4
R. peltatus	.	.	1	...	3	...	5	6	4
R. Drouetii	.	.	...	...	...	4	...	...	5
R. confusus	.	.	1	...	...	...	...	...	5
R. Lenormandi	.	.	1	...	3	4	5	6	5
R. hederaceus	.	.	1	2	3	4	5	6	5
R. sceleratus	.	.	1	2	3	4	...	6	6
R. Flammula	.	.	1	2	3	4	5	6	6
R. auricomus	.	.	1	...	3	4	5	6	6
R. acris	.	.	1	2	3	4	5	6	7
R. repens	.	.	1	2	3	4	5	6	7
R. bulbosus	.	.	1	2	3	4	5	6	7
R. hirsutus	.	.	1	2	3	4	5	...	7
R. parviflorus	.	.	1	2	3	4	5	6	8
R. arvensis	.	.	...	2	3	4	5	...	8
R. Ficaria	.	.	1	2	3	4	5	6	9
Caltha palustris	.	.	1	2	3	4	5	6	9
Helleborus viridis	.	.	1	2	3	4	5	...	10
Aquilegia vulgaris	.	.	1	2	3	4	5	6	10
Aconitum Napellus	.	.	...	...	3	4	5	6	11
Berberis vulgaris	.	.	1	2	3	4	5	...	12
Papaver Rhoeas	.	.	1	2	3	4	5	6	13
P. dubium	.	.	1	2	3	4	...	...	13
P. Argemone	.	.	...	2	...	4	5	6	13
P. hybridum	.	.	...	2	...	4	5	6	14
Glaucium luteum	.	.	1	2	...	4	5	...	15
Chelidonium majus	.	.	1	2	3	4	5	6	15
Corydalis lutea	.	.	...	2	3	4	5	...	16
C. claviculata	.	.	1	...	3	4	5	6	16
Fumaria confusa	.	.	1	2	3	4	5	6	17

Species.				Districts.			Page		
<i>Fumaria officinalis</i>	.	.	1	2	3	4	5	6	17
<i>Cakile maritima</i>	.	.	1	2	...	4	5	6	18
<i>Raphanus Raphanistrum</i>	.	.	1	...	3	4	5	...	18
<i>R. maritimus</i>	.	.	1	2	..	...	...	6	18
<i>Sinapis arvensis</i>	.	.	1	2	3	4	5	6	19
<i>S. alba</i>	2	3	4	5	...	19
<i>S. nigra</i>	.	.	1	2	3	4	5	6	19
<i>Brassica Rapa</i>	.	.	1	2	3	4	5	6	20
<i>Diplotaxis tenuifolia</i>	2	...	4	...	...	21
<i>D. muralis</i>	.	.	1	2	3	4	...	...	21
<i>Sisymbrium officinale</i>	.	.	1	2	3	4	5	6	22
<i>S. Alliaria</i>	.	.	1	2	3	4	5	6	22
<i>Erysimum cheiranthoides</i>	.	.	1	2	3	4	...	...	22
<i>Cheiranthus Cheiri</i>	.	.	1	2	3	4	5	...	23
<i>Cardamine pratensis</i>	.	.	1	2	3	4	5	6	23
<i>C. hirsuta</i>	.	.	1	2	3	4	5	6	24
<i>C. sylvatica</i>	.	.	1	2	3	4	5	6	24
<i>Arabis thaliana</i>	.	.	1	2	3	4	5	6	24
<i>A. hirsuta</i>	2	3	4	5	...	24
<i>Barbarea vulgaris</i>	.	.	1	2	3	4	5	6	25
<i>B. intermedia</i>	.	.	1	...	3	4	...	...	25
<i>B. præcox</i>	.	.	1	2	3	4	5	6	26
<i>Nasturtium officinale</i>	.	.	1	2	3	4	5	6	27
<i>N. sylvestre</i>	3	...	...	...	27
<i>N. palustre</i>	.	.	1	2	...	...	...	...	27
<i>Armoracia rusticana</i>	.	.	1	2	3	4	...	...	27
<i>Cochlearia officinalis</i>	.	.	1	2	3	4	...	...	28
<i>C. danica</i>	.	.	1	2	3	4	5	6	28
<i>C. anglica</i>	.	.	1	2	3	...	...	...	29
<i>Draba verna</i>	.	.	1	2	3	4	5	6	30
<i>Alyssum maritimum</i>	3	4	...	...	31
<i>Camelina sativa</i>	3	4	...	...	31
<i>Thlaspi arvense</i>	.	.	1	2	3	4	...	...	31
<i>Teesdalia nudicaulis</i>	.	.	1	2	3	4	5	6	32
<i>Capsella Bursa-pastoris</i>	.	.	1	2	3	4	5	6	32
<i>Lepidium ruderale</i>	2	...	4	...	...	33
<i>L. campestre</i>	.	.	1	2	3	4	5	6	33
<i>L. Smithii</i>	.	.	1	2	3	4	5	6	34
<i>Senebiera didyma</i>	.	.	1	2	3	4	5	6	34
<i>S. Coronopus</i>	.	.	1	2	3	4	5	6	35
<i>Reseda lutea</i>	.	.	1	...	3	4	...	...	35
<i>R. Luteola</i>	.	.	1	2	3	4	5	6	36
<i>Viola palustris</i>	.	.	1	...	3	4	5	6	36
<i>V. odorata</i>	.	.	1	2	3	4	5	6	37
<i>V. permixta</i>	2	3	4	5	...	38

Species.				Districts.			Page
<i>Viola hirta</i>	.	.	1	2	3	4	6
<i>V. sylvatica</i>	.	.	1	2	3	4	6
<i>V. canina</i>	.	.	1	2	3	4	5
<i>V. lactea</i>	.	.	1	2	3	4	5
<i>V. arvensis</i>	.	.	1	2	3	4	5
<i>Drosera rotundifolia</i>	.	.	1	2	3	4	5
<i>D. intermedia</i>	.	.	1	2	...	4	5
<i>Polygala vulgaris</i>	.	.	1	2	3	4	5
<i>Dianthus Armeria</i>	.	.	1	...	3	...	...
<i>Saponaria officinalis</i>	.	.	1	2	3	4	5
<i>Silene inflata</i>	.	.	1	2	3	4	5
<i>S. maritima</i>	.	.	1	2	3	4	5
<i>S. anglica</i>	.	.	1	2	3	4	...
<i>S. noctiflora</i>	.	.	...	2	3	4	5
<i>Lychnis vespertina</i>	.	.	1	2	3	4	5
<i>L. diurna</i>	.	.	1	2	3	4	5
<i>L. Flos-cuculi</i>	.	.	1	2	3	4	5
<i>L. Githago</i>	.	.	1	2	3	4	5
<i>Moenchia erecta</i>	.	.	1	2	3	4	5
<i>Cerastium tetrandrum</i>	.	.	1	2	3	4	5
<i>C. semidecandrum</i>	.	.	1	2	...	...	6
<i>C. glomeratum</i>	.	.	1	2	3	4	5
<i>C. triviale</i>	.	.	1	2	3	4	5
<i>Stellaria media</i>	.	.	1	2	3	4	5
<i>S. Holostea</i>	.	.	1	2	3	4	5
<i>S. graminea</i>	.	.	1	2	3	4	5
<i>S. uliginosa</i>	.	.	1	2	3	4	5
<i>Arenaria trinervis</i>	.	.	1	2	3	4	5
<i>A. serpyllifolia</i>	.	.	1	2	3	4	5
<i>Honkenya peploides</i>	.	.	1	2	...	...	5
<i>Sagina maritima</i>	.	.	1	2	3	4	5
<i>S. apetala</i>	.	.	1	2	3	4	5
<i>S. ciliata</i>	.	.	1	2	3	4	5
<i>S. procumbens</i>	.	.	1	2	3	4	5
<i>S. subulata</i>	.	.	1	2	3	4	5
<i>Spergula arvensis</i>	.	.	1	2	3	4	5
<i>Spergularia rubra</i>	.	.	1	2	3	4	5
<i>S. neglecta</i>	.	.	1	2	8	4	5
<i>S. marginata</i>	.	.	1	2	3	4	5
<i>S. rupestris</i>	.	.	1	2	3	4	5
<i>Polycarpon tetraphyllum</i>	.	.	1	...	3	...	5
<i>Scleranthus annuus</i>	.	.	1	...	3	4	...
<i>Montia fontana</i>	.	.	1	2	3	4	5
<i>Hypericum Androsænum</i>	.	.	1	2	3	4	5
<i>H. calycinum</i>	.	.	...	2	3	4	...

DISTRIBUTION OF SPECIES

Species.				Districts.				Page
<i>Hypericum perforatum</i>	.	.	1	2	3	4	5	6
<i>H.</i>	<i>dubium</i>	.	.	1	2	3
<i>H.</i>	<i>tetrapterum</i>	.	.	1	2	3	4	5
<i>H.</i>	<i>boeticum</i>	.	.	1	2	3	4	5
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<i>M.</i>	<i>rotundifolia</i>	.	.	1	2	3	4	5
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<i>A. arvensis</i>	.	1	2	3	4	5	6
<i>A. nobilis</i>	.	1	2	3	4	5	6
<i>Achillea Millefolium</i>	.	1	2	3	4	5	6
<i>A. Ptarmica</i>	.	1	2	3	4	5	6
<i>Artemisia Absinthium</i>	.	1	2	3	4	5	6
<i>A. vulgaris</i>	.	1	2	3	4	5	6
<i>Filago germanica</i>	.	1	2	3	4	5	6
<i>F. minima</i>	2	3	4	5	...
<i>Gnaphalium uliginosum</i>	.	1	2	3	4	5	6
<i>G. sylvaticum</i>	3	4	5	...
<i>G. dioicum</i>	3	4
<i>Senecio vulgaris</i>	.	1	2	3	4	5	6
<i>S. sylvaticus</i>	.	1	2	3	4	5	6
<i>S. erucifolius</i>	2	3	4	5	...
<i>S. Jacobaea</i>	.	1	2	3	4	5	6
<i>S. aquaticus</i>	.	1	2	3	4	5	6
<i>Bidens cernua</i>	.	1
<i>B. tripartita</i>	.	1	2	3	4
<i>Inula Helenium</i>	.	1
<i>I. Conyza</i>	.	1	2	3	4	5	6
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<i>I. dysenterica</i>	.	1	2	3	4	5	6
<i>Bellis perennis</i>	.	1	2	3	4	5	6
<i>Aster Tripolium</i>	.	1	2	3	4	5	6
<i>Solidago Virga-aurea</i>	.	1	2	3	4	5	6
<i>Tussilago Farfara</i>	.	1	2	3	4	5	6
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<i>Eupatorium cannabinum</i>	.	1	2	3	4	5	6
<i>Cichorium Intybus</i>	.	1	2	3	4	5	6
<i>Lapsana communis</i>	.	1	2	3	4	5	6
<i>Hypochaeris radicata</i>	.	1	2	3	4	5	6
<i>Leontodon hirtus</i>	.	1	2	3	4	5	6
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<i>L. autumnalis</i>	.	1	2	3	4	5	6
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<i>Helminthia echiooides</i>	.	1	2	3	4	5	6
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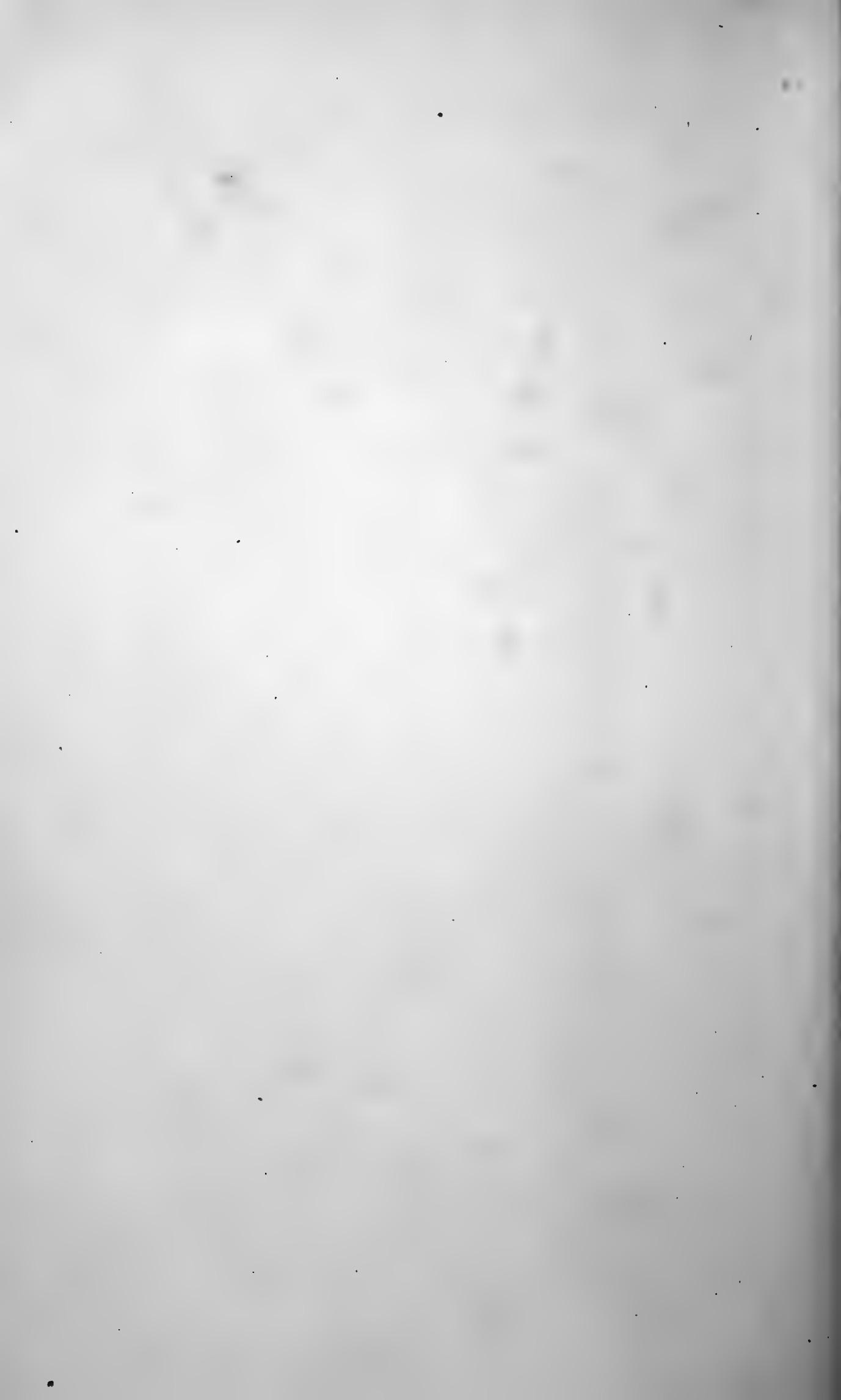
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